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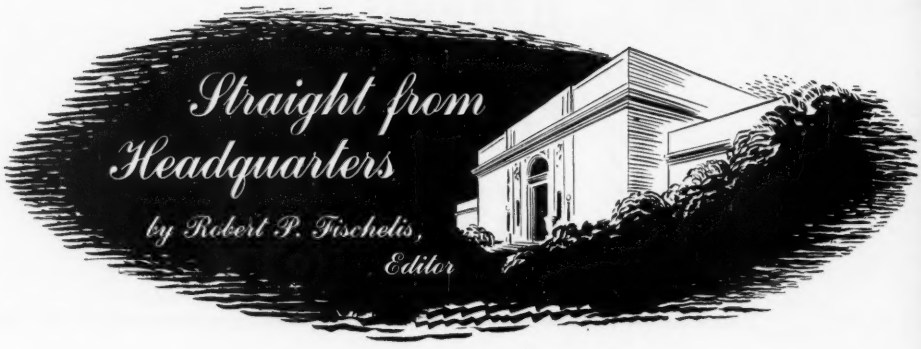


A New Challenge to the States

THIS MONTH the AMERICAN PHARMACEUTICAL ASSOCIATION is in session at Philadelphia and the members of the House of Delegates will have before them recommendations from various sources. These recommendations will deal with current problems even though much of the time of the ASSOCIATION at its various sessions this year will be taken up by ceremonies incident to the celebration of the one hundredth anniversary of the founding of the ASSOCIATION.

A survey of the program and the comments of leaders of the ASSOCIATION in their prepared addresses shows clearly that the profession is cognizant of certain encroachments on the freedom of the individual and the freedom of the profession at large.

The fact that some of these encroachments are making headway is due in no small measure to the readiness of individuals and groups to abdicate their responsibilities. Too many pharmacists are willing to follow leadership which does not exact any personal service or contribution. Too many State pharmaceutical associations are willing to agree to Federal domination of law enforcement procedures and the enactment of more and more Federal legislation which brings regulation of the professions under Federal control.

We are now at a point in which the United States is more involved in world affairs than ever before, and the national economy is more closely tied to the federal government. This produces a need for greater legislative responsibility by the Congress and at the same time compels a wider use of the executive power. If this trend continues, it will be necessary for pharmacists through their national and state organizations, to adopt procedures somewhat different from those used in the past, in order to keep the members of Congress advised of the effect of concentration of power on the local representatives of the federal government.

The Durham-Humphrey bill became effective on April 26. It was expected that before that date, the executive department of the federal government through the Federal Security Agency would promulgate regulation that would clarify the procedure desired under the new law.

April 26 came and went and thee months have now passed since the Act became effective, but no final regulations have been issued by the Federal Security Agency. Tentative regulations were published some time ago and comment of the profession and industry was supplied through its established organizations to the Administrator and has no doubt been given consideration.

Late last month the Federal Security Agency published revised regulations under the Food, Drug and Cosmetic Act but they were not the regulations which had been tentatively proposed for the enforcement of the Durham-Humphrey Act. In only one respect did they touch upon a current interpretation of the new law, and that was in connection with the interstate shipment of prescriptions. We are given to understand that it is not likely that regulations on the refilling of prescriptions will be issued soon. It is therefore necessary for individual pharmacists to be guided in their observance of the law by their own interpretations or by the more stringent regulations of State laws under which they operate.

Associations Must Study Proposals

Now that the federal government is clearly established as one of the regulating agencies of professional practice in medicine and pharmacy, it becomes important for national, state and local organizations to restudy the entire body of law which governs the professions both at federal and state levels. It becomes important also to coordinate state and federal legislation in this field to the greatest extent possible.

If the professions are to be regulated at the federal level, members of the Congress must be advised of situations as they exist in the several states.

In a recent appearance before a subcommittee of the Committee on Ways and Means of the House of Representatives which has under consideration the possibility of federal legislation regulating the distribution of barbiturates, it was quite clear that the members of the committee and certainly members of the House of Representatives, in general, are not familiar with the regulations governing the practice of pharmacy existing in their own states. When the Congress of the United States begins to regulate the practice of pharmacy, as it has done under the Durham-Humphrey law, it is highly important that each member of Congress should know intimately how the profession is regulated at the state level and what the problems of the profession are. The Congressmen should not be given a one-sided impression by government bureaus and others who are interested in the development of federal control over state and local activities. The appearance of a representative of a government agency before a committee of Congress with statements based on generalities drawn from experience with occasional cases, which may or may not apply to all states, is sure to give Congressmen a warped opinion of what actually goes on in their own district.

Members of the Congress should not be left in ignorance of regulations existing in their states on drugs and professional procedures. If they do not receive information from their constituents on this subject, they are an easy prey to those who use isolated instances in describing a situation in order to influence the thinking and action of legislators.

When statements are made in annual reports of agencies like the Food and Drug Administration which lead Congressmen to believe that there is wholesale violation of laws dealing with the sale of barbiturates, for example, it becomes necessary to ask these agencies for names and addresses and specific information about such cases. If there are 100 cases of infraction of the law among 55,000 drugstore owners, the Congressmen should recognize what an infinitesimal proportion this is.

If a scientist working in an institution with drug addicts carries on experiments with these addicts using many times the dose of the drug that is normally prescribed by a physician and then records the effect of such toxic dosage on a drug addict, the Congressmen should know the basic facts of the experiment so that they will not be led to believe that this is a normal reaction to therapeutic doses. These are the kind of things taken advantage of in expressing the need for certain types of legislation. We are quite in favor of having abuses regulated but there is no fairness in a procedure which misleads a lay Congressman in order to provide federal regulation for abuses that should be controlled at state and local levels.

American pharmacy has a big job ahead of it in educating its national representatives in the Congress of the United States and in keeping its skirts sufficiently clean to avoid the necessity for further federal encroachment on the regulation of the practice of the professions.

It behooves both national and state pharmaceutical associations to enter upon a systematic campaign of education of Congressmen and Senators similar to that now being followed by many State pharmaceutical associations in contacting the members of their State Legislatures.

In this connection it must be borne in mind that these men are usually smart enough to distinguish propaganda from fact. It therefore becomes necessary to institute a number of fact-finding studies which will be authentic and without bias. The results of such studies can then be passed on to members of Congress and others as a basis for action by them.

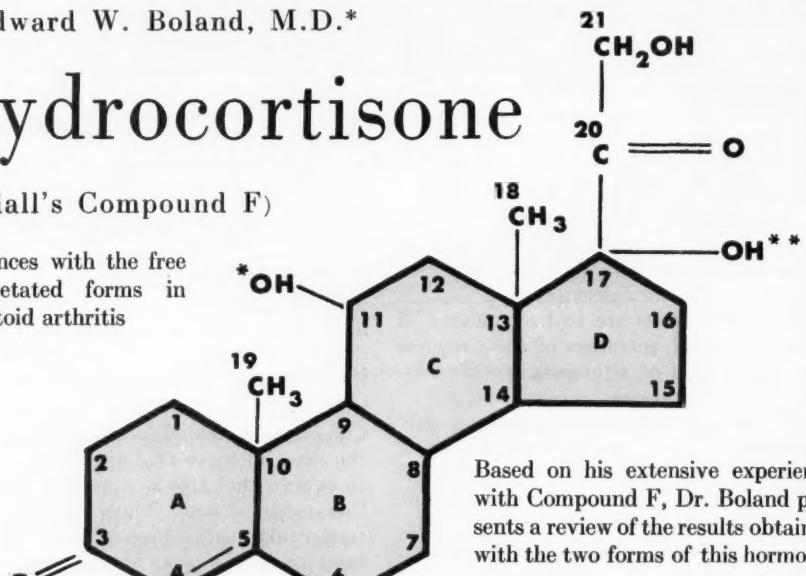
It has been the policy of the AMERICAN PHARMACEUTICAL ASSOCIATION to refrain from pressure tactics and to supply factual information. Only by such procedures is it possible to maintain the respect of our lawmakers.

by Edward W. Boland, M.D.*

Hydrocortisone

(Kendall's Compound F)

Experiences with the free and acetated forms in rheumatoid arthritis



Based on his extensive experience with Compound F, Dr. Boland presents a review of the results obtained with the two forms of this hormone.

AMONG THE SEVERAL steroid hormones isolated from the adrenal cortex by Kendall and his co-workers (1, 2) in 1935, at least two were destined for important therapeutic and research roles. These were 17-hydroxy-11-dehydrocorticosterone and 17-hydroxycorticosterone, designated at first simply as Compounds E and F and later named cortisone and hydrocortisone. Chemically the two substances are very similar, differing from each other in but a single structural detail: cortisone has a ketone group while hydrocortisone has a hydroxyl radical placed at the eleventh carbon position in the steroid nucleus.

Until 1946, when Sarett succeeded in partially synthesizing cortisone from desoxycholic acid, neither hormone was obtainable in amounts sufficient to permit clinical evaluations. Following the discovery by Hench and colleagues (3, 4) in 1948 that cortisone dramatically suppressed the disease manifestations of rheumatoid arthritis, rheumatic fever, and certain related nonhormonal conditions, methods of synthesis were rapidly improved and the hormone, though costly, was made commercially available. The initial reports of Hench and associates included observations of a single rheumatoid arthritic patient treated with hydrocortisone, to whom a total of 900 mg. of the hormone was administered intramuscularly in divided doses over a period of twelve days; rapid and marked improvement resulted. This observation created only academic interest at that time, however, as extraction from adrenal cortical tissue provided the sole source for the hormone and supplies were too meager to allow further clinical investigations.

Important laboratory studies were carried out in small animals with the limited amounts of hydrocortisone available. These demonstrated that the physiologic properties of hydrocortisone and cortisone were qualitatively similar but that hydrocortisone was, milligram for milligram, decidedly more potent. Comparisons of physiologic activity made with muscle work tests, assays of liver glycogen and ability to induce regressive changes in certain ductless glands showed that hydrocortisone was approximately twice as potent (5–7). Furthermore, the hormone was found more effective in stunting embryo growth when injected into the yolk sacs of chicks (8), and only one-half as much hydrocortisone as cortisone was required to produce an equivalent fall in the circulating blood eosinophils (9–11).

* 2210 West Third Street, Los Angeles 5, California

Other procedures have provided data which suggest that hydrocortisone, rather than cortisone, is the principal adrenal cortical steroid which participates in physiologic reactions, at least under conditions of stress. The secretion of hydrocortisone and corticosterone (Kendall's Compound B) is greatly augmented when corticotropin (ACTH) is perfused through isolated beef adrenal glands but cortisone production is only slightly increased (12–14). After corticotropin is administered to human subjects large amounts of hydrocortisone, but only traces of cortisone, are recovered in the urine (15). Similarly, hydrocortisone is the chief urinary corticoid found in patients with hyperfunctioning adrenal cortical tumors. The fact that the adrenal gland will transform Reichstein's Compound "S" (11-desoxy-17-hydroxycorticosterone) to hydrocortisone on perfusion and yet no perfused substance has yielded cortisone has led investigators to speculate that cortisone may not be a true secretion product, but rather a metabolite of hydrocortisone (12, 13, 16).

From biosynthetic sources small quantities of hydrocortisone were supplied to us for clinical trial in the spring of 1951. The material was produced by two processes, both of which were unique, complicated, and expensive. The first involved the perfusion *in vitro* of isolated bovine adrenal glands with media containing Reichstein's Compound "S", a steroid derived from soybeans which of itself is devoid of anti-inflammatory or antiallergic properties. Chemically it fails to fulfill the requisites for a glycogenically active steroid because it lacks an oxygen atom at the C-11 position in the 21-carbon nucleus; otherwise its configuration is identical to hydrocortisone or cortisone. During adrenal perfusion a hydroxyl radical is added at the eleventh carbon position and the substance is changed to hydrocortisone. The second process consists of incubating Reichstein's compound "S" with macerated adrenal glands. During incubation the substance is 11-hydroxylated to hydrocortisone by the action of cortical enzymes. In 1951 hydrocortisone was also manufactured by partial chemical synthesis, through a more complicated but similar process to that employed in the commercial production of cortisone.

Two forms of the hormone are available for investigation: the pure hormone—hydrocortisone (free alcohol); and an ester—hydrocortisone acetate. These two products must be carefully distinguished as they possess striking differences in potency when administered systemically. They also differ in solubility, the free alcohol compound being substantially more soluble than the acetate ester in such media as water (28 times), synovial fluid (6 times), plasma (35 times), and egg albumin (36 times) (17). Hydrocortisone acetate is now marketed as a suspension suitable for local application. Hydrocortisone (free alcohol) for systemic administration is not yet obtainable commercially but it probably will be in the near future.

Our interest in studying the effects of hydrocortisone in rheumatoid arthritis was prompted by the fact that prolonged cortisone therapy provided satisfactory degrees of improvement in only two-thirds of our patients (18–20) The chief obstacle to better results has been the development of adverse hormonal reactions. These are more prone to occur in patients with very active or severe disease who require continued large or relatively large doses of the hormone—doses which frequently lead to troublesome complications and cannot be tolerated. Thus in patients with severe disease particularly, large but efficient doses often have to be reduced with sacrifice to clinical results. Like others, we have been in search of a substance which, on continued administration, would provide adequate improvement in a higher percentage of cases. A hormone with greater antirheumatic potency and unaccompanied by greater liabilities, milligram for milligram, or one with equal therapeutic efficiency but with less tendency for endocrine complications would have therapeutic advantages.

Effects of Hydrocortisone Given Orally to Patients with Rheumatoid Arthritis

The antirheumatic properties of hydrocortisone, both in its free and acetated forms, have been studied by us in patients with rheumatoid arthritis. Attempts have been made to determine the relative potencies of the two preparations and to compare their effects with those of cortisone. Studies were conducted by: (1) comparing the response of rheumatic manifestations to initial suppressive doses of the compounds; (2) comparing, in the same patient, the maintenance doses required to uphold equivalent degrees of clinical improvement. Results of these investigations have been reported in detail elsewhere (21–23) and are summarized herein.

(Continued on next page)

Hydrocortisone

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Effects of Initial Suppressive Doses of Hydrocortisone (free alcohol):[1] In general, the pattern of improvement is similar to that which occurs with cortisone acetate. However, the onset of improvement is more striking and more uniformly rapid with hydrocortisone (free alcohol) and symptoms such as aching, stiffness, and joint tenderness begin to abate earlier, usually within 3 to 10 hours following the initial dose. Subsequent improvement usually progresses at a more rapid rate than with cortisone acetate and is more complete within short periods. In 10 patients studied, adequate degrees of improvement (marked or very marked: more than 75%) resulted within 4 to 15 days. Corrections of erythrocyte sedimentation rates were consistently rapid and, in contrast to cortisone acetate, the reductions closely followed the clinical improvement.

From these observations it appears that hydrocortisone (free alcohol) is more effective than cortisone acetate when the compounds are given by mouth in similar milligram doses.

Effects of Initial Suppressive Doses of Hydrocortisone Acetate:[2] In contrast to the superior response noted with hydrocortisone (free alcohol), the effects from initial suppressive doses of hydrocortisone acetate were considered to be less than would be expected from cortisone acetate given in corresponding doses in six of eight patients studied. The onset of subjective relief was less striking, the erythrocyte sedimentation rate was reduced slowly and unimpressively, and at the end of several days of treatment over-all subjective and objective improvement was inferior to that which should have resulted from similar amounts of cortisone acetate.

These observations indicate that with oral administration hydrocortisone acetate is less effective than cortisone acetate and is distinctly inferior to hydrocortisone (free alcohol).

Comparisons of Maintenance Dosage Requirements: By transferring treatment of patients stabilized on oral maintenance doses of one compound directly to a second compound and comparing the dosages required for similar degrees of clinical improvement, it has been possible to estimate differences in antirheumatic potency. It is realized that assessments based on clinical evaluations alone are not truly quantitative but it is necessary to rely on them at present for there are no bioassay methods and no satisfactory laboratory tests with which to test rheumatic activity.

Hydrocortisone (free alcohol) versus Cortisone Acetate: Comparisons with these two compounds were made in 15 patients and in each patient smaller amounts of hydrocortisone (free alcohol) were required to provide equivalent improvement in the rheumatic manifestations. Dosage ratios of hydrocortisone (free alcohol) to cortisone acetate ranged from 1:1.43 to 1:1.7, with an average ratio for the group of 1:1.59. The results imply that with oral administration the antirheumatic potency of hydrocortisone (free alcohol) is, milligram for milligram, at least 50 per cent greater than that of cortisone acetate.

Hydrocortisone Acetate versus Cortisone Acetate:[3] When the maintenance requirements of these two substances were tested on the same patients, hydrocortisone acetate was found to be less effective than cortisone acetate in 12 of 13 patients studied. Dosage ratios of cortisone acetate to hydrocortisone acetate varied from 1:1 to 1:1.64 with an average for the group of 1:1.35.

Hydrocortisone (free alcohol) versus Hydrocortisone Acetate: In each of nine patients studied, hydrocortisone (free alcohol) was found to be decidedly superior to hydrocortisone acetate. Dosage ratios of hydrocortisone (free alcohol) to hydrocortisone acetate varied from 1:1.75 to 1:2.19, with an average for the group of 1:1.97. These figures indicate that hydrocortisone (free alcohol) is, milligram for milligram, approximately twice as effective.

Cortisone Acetate versus Cortisone (free alcohol):[4] Significant differences in potency between the free and acetate forms of cortisone could not be demonstrated, and except for minor deviations in four of 17 patients, maintenance dosages for the two preparations were interchangeable.

Summary of Maintenance Dosage Comparisons: These observations imply that, milligram for milligram, hydrocortisone (free alcohol) produces a greater antirheumatic effect than cortisone acetate, cortisone (free alcohol), and hydrocortisone acetate when

[1] Hydrocortisone (free alcohol) was supplied by G. D. Searle Co. and Merck & Co., Inc.; a small portion was supplied by the Upjohn Co.
[2] Hydrocortisone acetate was supplied by Merck & Co., Inc.
[3] Cortisone acetate was supplied by Merck & Co., Inc.
[4] Cortisone (free alcohol) was supplied by the Upjohn Co.

the substances are administered orally. The effectiveness of hydrocortisone (free alcohol) appears to be more than 50 per cent greater than cortisone acetate and about twice as great as hydrocortisone acetate.

Adverse Hormonal Complications from Hydrocortisone (free alcohol): It is evident from observations made during the administration of large initial suppressive doses that hydrocortisone (free alcohol) given systemically in large enough doses will produce endocrine complications of the same order as are noted with cortisone acetate. Long-term treatment studies are now in progress which eventually will allow the incidence of undesirable effects from the two hormones to be compared. Until these are accomplished no definite statement can be made as to whether patients with rheumatoid arthritis may be controlled more satisfactorily and more safely with hydrocortisone (free alcohol).

Some observations made while comparing maintenance requirements have suggested, however, that effective therapeutic doses of hydrocortisone (free alcohol) may be accompanied by fewer endocrine complications. Comparisons were accomplished by transferring patients stabilized for long periods (3 to 26 months) on maintenance doses of cortisone acetate directly to hydrocortisone (free alcohol). Before transfer, 7 of 15 patients demonstrated signs of cortisone excess. In six of these, slight to moderate edema was present which disappeared entirely when hydrocortisone (free alcohol) therapy was instituted in smaller but equally effective doses. In three patients facial mooning was present beforehand which became less noticeable in two and receded completely in the other. It is possible, therefore, that the greater antirheumatic activity of the hormone may not be accompanied by a correspondingly greater tendency to produce endocrine complications. Should more extensive investigations in the future bear this out, then hydrocortisone (free alcohol), by producing equally efficient results with smaller milligram doses, may prove superior to cortisone acetate as a therapeutic agent.

Effects of Hydrocortisone Acetate Administered Intra-Articularly

Hydrocortisone acetate injected directly into the synovial space may produce temporary alleviation of such local articular manifestations as pain, aching, stiffness, tenderness, and swelling. The synovial fluid cell count is decreased and the intra-articular temperature is reduced, indicating that suppression of the inflammatory reaction results. According to Hollander and associates (24), hydrocortisone acetate and hydrocortisone (free alcohol) are equally effective when injected intra-articularly but cortisone acetate gives distinctly inferior results.

Hollander and associates recently reported their results in 69 patients with rheumatoid arthritis in whom one or more joints were injected with hydrocortisone acetate: in every instance prompt lessening of local symptoms and signs was observed (24). The completeness of improvement varied considerably, however, and the duration of benefit from an injection ranged from a few days to several weeks. Doses of 25 mg. were optimal for most of their cases but in a few severe cases larger amounts were employed. Injections were repeated as often as necessary to provide relief. They also found that the hormone produced striking alleviation of symptoms when injected into osteoarthritic joints. In 36 of 37 knees treated, complete or nearly complete disappearance of symptoms and complete return of normal work tolerance were said to have resulted within 24 hours after 25 mg. of the hormone was injected intra-articularly. The duration of relief in these cases was found to be several times as long as in cases of rheumatoid arthritis (usually three weeks or longer) and often persisted until the patient abused the affected joint.

We have employed hydrocortisone acetate[5] as local treatment in 57 patients with active rheumatoid arthritis. A total of 109 joints have been repeatedly injected, each at least three times and some as many as 10 to 15 times. Doses of 50 mg. have been given arbitrarily for large joints, such as knees and shoulders, and doses of 10 to 25 mg. have been used for smaller joints. Local anesthesia to the skin or into the joint has not been used in any case. In general, our results are not as good as those reported by Hollander. Temporary improvement has resulted in approximately 80 per cent of the joints treated, but the degree of improvement has been graded as marked or very marked in only a little more than one-half of the joints. In joints which showed appreciable response there was lessening of local pain,

[5] Hydrocortisone acetate in suspension suitable for intra-articular application was supplied by Merck & Co., Inc.

(*Continued on page 544*)

Hydrocortisone

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tenderness, synovial effusion, and restriction of motion within the first 24 hours, usually within four to 12 hours. The maximal relief was variable in duration, lasting from one to 45 days, but the usual period was three to five days; thereafter symptomatic and objective improvement waned. Except in a very few joints (slightly less than 5 per cent) the beneficial results have been transient and reinjections have been required for improvement to be maintained. In no instance, however, have the articular manifestations relapsed to a state worse than they were before injection and so far no complications, such as infection or hemorrhage, have been encountered.

These preliminary observations indicate to us that the intra-articular application of hydrocortisone acetate probably has a limited place in the management of patients with rheumatoid arthritis. The procedure represents local therapy for a systemic disease and is not a substitute for systemic treatment. Obviously it would be impractical to inject all of the joints affected in patients with rheumatoid arthritis involving multiple peripheral joints; the beneficial effects are usually quite temporary, in no way curative, and repeated injections at frequent intervals are necessary to provide prolonged relief. This type of treatment may be advantageously applied for temporary relief, however, under certain special circumstances: (1) when the articular manifestations are restricted to one or two joints; (2) when one or two joints in a multiple arthritis are particularly resistant to systemic therapy; (3) when one or two joints are incapacitating and complications such as pregnancy, diabetes, pulmonary tuberculosis, active peptic ulcer, etc., prevent the systemic use of cortisone, corticotropin, or perhaps gold salts; (4) when, during the course of otherwise successful therapy, an acute flare-up of arthritis develops temporarily in one or two joints; and (5) as an auxiliary measure in the orthopedic correction of certain joint deformities, especially flexion contractures being treated by nonsurgical methods.

Our results in osteoarthritis have been poorer than in rheumatoid arthritis. Repeated injections of hydrocortisone acetate in 50 mg. doses have been made in 22 knee joints of 17 patients. Significant improvement lasting for more than a few days has occurred in less than 40 per cent of the treated joints. Contrary to the observation of Hollander and associates, there have been no instances of prolonged relief and only 6 of the 17 patients have considered the results good enough to warrant continuation of the injections. It seems probable that in osteoarthritis this form of treatment may be used to best advantage in suppressing temporary exacerbations of symptoms in large weight-bearing joints.

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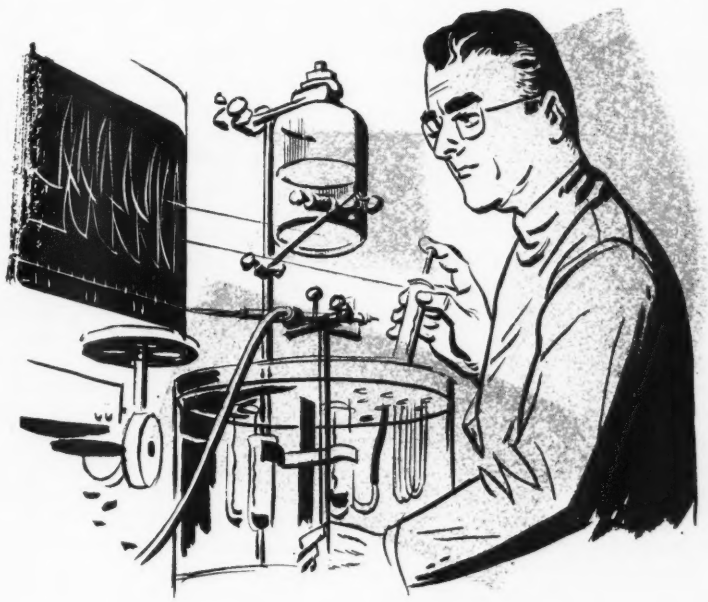
the responsibility of pharmacology in the food, drug, and cosmetic industries



by L. W. Hazleton*

Since 1900, when the first chair of pharmacology was established, the pharmacologist has progressed to a key position in industry. Despite many problems, both scientific and practical, his value will continue to increase, according to Dr. Hazelton.

RECENT REVIEWS presented at the Proprietary Association of America Scientific Section (Winters in December 1951 and Haag in May 1949) defined and discussed duties of pharmacology in the drug industry, including bioassay screening, development, research, and experimental therapeutics. Others have pointed out to some extent the necessity for pharmacology in the proprietary industry if progress is to be achieved and emphasized the value of applying modern pharmacological techniques to existing products.

In addition, there are two quite different but equally important aspects of pharmacology, which command attention. The first of these is the achievement of a mature status as an independent profession, and the second is the ever-

(*Continued on next page*)

* President, Hazleton Laboratories, Falls Church, Va. A condensation of a paper first presented at The Proprietary Association of America, Scientific Section, White Sulphur Springs, W. Va., May 23, 1952.

Pharmacology

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increasing responsibilities which the pharmacologist is called upon to accept.

Historically, pharmacology is about a century old. The first full-time chair in pharmacology was that of Cushny's at Ann Arbor, Mich., at about the turn of the century. Others followed rapidly, but not until about 20 years ago did pharmacologists employed by industry gain acceptance among the then predominant academicians.

As might be expected, these early pharmacologists in industry were employed in the drug field. By the late 1930's this dual responsibility of research and teaching in the health sciences on the one hand, and research and development in the drug industry on the other, had become well established and was accepted by the profession, albeit somewhat reluctantly by some segments.

In retrospect, this development has become only a forecast of coming events, however, for the thirties also ushered in a series of pertinent circumstances which were to again add new responsibilities and new challenges.

As a group, both pharmacologists and the drug industry are cognizant of the cavalcade of progress represented by sulfa drugs, the 1938 Food, Drug and Cosmetic Act, antibiotics, anticonvulsants, autonomic blocking agents, cholinesterase inhibitors, antianemia preparations, etc. The Food, Drug and Cosmetic Act was included in this list very deliberately for I want to emphasize the food and cosmetic fields included in the title. These terms are included, not for convenience. but from necessity. It is important that the cause-effect relationship be clarified promptly in this respect. The Act is not a cause but a result. It did not come into being to cause this cavalcade but as a necessary result of rapid progress being made in the fields which it regulates.

Simultaneously with these developments in the drug field were equally significant events in the chemical industry. A major chemical manufacturer recently stated that half their sales volume was in materials which did not exist 10 years previously. It would seem redundant to recite in every detail these advances—plastics, agricultural chemicals, detergents, light metals and alloys, etc.

The cosmetic manufacturers also moved ahead with cold waves, new type creams and make-up, shampoos and other hair preparations, cologne sticks, etc. For one quite close to this industry the rapid strides made in research and development in the last decade are most impressive.

It should be apparent to any thoughtful person that these two great industries didn't make such progress by just working test tubes, retorts, and chemists overtime. Quite to the contrary, they also required the knowledge, experience, and technique of the pharmacologist. Their development needed pharmacological guidance through screening, assaying, comparison and development stages, and finally comprehensive research to establish safety for use.

What of the current responsibilities? Dependent largely upon his affiliation, the pharmacologist may be called upon to design and either supervise or conduct experiments directed at:

(*a*) drug development, both old and new;
(*b*) evaluation of safety of materials for public use, as in food additives or cosmetics;
(*c*) evaluation of industrial hazards of new chemicals, through the whole channel from chemist to pilot plant, to production, to formulation, to distribution, to application, to consumption;
(*d*) evaluation of new uses for various agents such as nerve poisons for myesthenia gravis, agricultural chemicals for medicinal use, food chemicals for cosmetics, etc.

These are the responsibilities, very abbreviated, which are directly associated with the laboratory of the pharmacologist. It is hoped that this brief outline will serve to illustrate that the animals in the laboratory are just as cooperative, or more likely just as contrary, no matter what the objective of the experiment may be. The important point here is that all industries which manufacture products coming into intimate contact with the human body are faced with problems in common.

The meeting place of these problems is the pharmacologist, or what is frequently called a "toxicologist." This latter terminology, however, is inappropriate for the scope which has been outlined since the poisonous, or toxic, aspect of a material is only one of the many to be investigated, and more particularly, to be *evaluated*.

Interpretation and evaluation of data is currently understood to be an important responsibility. Management requires one type of evaluation, industrial hygiene another, and promotion still another. To this could be added labeling. But this is only the beginning. To-

day the rational evaluation of chemicals, including drugs, from the standpoint of Federal and State regulations and of public health is becoming the pharmacologist's most significant responsibilities.

During most of the past decade and more I have been closely associated with the problems of industrial pharmacology, first in a university and for the past six years on a commercial basis. It is inevitable that in this time I should, from the scientist's point of view, develop new concepts and be aware of current trends in the field. Most fundamental of these is that the problems faced by the various industries are very much analogous so far as regulations are concerned. The impact of the 1938 Federal Food, Drug and Cosmetic Act is similar, and equally foreboding to all. True, the drug industry acquired exclusive rights to the New Drug Section, but this is in practice a procedural difference only. The cosmetics industry has the lion's share of the coal tar dye regulations, but this is balanced by insulin and antibiotic certification. What special deal for the agricultural chemical field? The Federal Insecticide, Fungicide and Rodenticide Act of 1947 provides for regulation of economic poisons by the Department of Agriculture on a basis similar to the New Drug Section. The Federal Food, Drug and Cosmetic Act provides for regulation of chemicals added to foods, but further regulation appears to be in prospect.

Let me trace the course of a new insecticide from test tube to market so that you may compare it with the more familiar course of a new drug. The chemical research and industrial screening is comparable, as are the management decisions to proceed. Then come pharmacological studies and evaluation. Finally, but much later, comes the regulatory gamut.

Application is made to the appropriate Department of Agriculture division for a "label." The data to be submitted may be roughly divided into two groups:

(*a*) Entomological, which includes:
1. effectiveness against specific economic pests,
2. suitability for use on specific crops,
3. full directions for use.

(*b*) Pharmacological, which includes:
1. degree of hazard to man in each formulation and for each use,
2. cautions for application,
3. residue hazard,
4. description of toxicity and antidote.

The collection of emtomological data is a staggering undertaking but beyond the realm of this presentation. The pharmacological data, you will note, include hazards under different use conditions and food residue. Since certain uses such as space spraying, may involve public health, the U. S. Public Health Service gets into the act. Since food residue is involved, the Food and Drug Act is involved also, but not at the start.

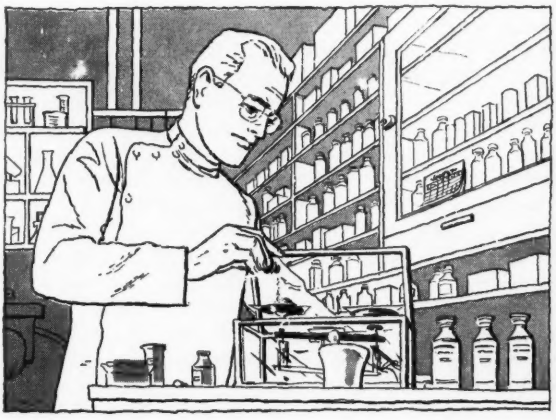
First in order is getting the detailed label approved by Agriculture. In actual practice the scientific personnel of these agencies are to be congratulated in the joint operations organized to expedite this phase. If the label is finally approved the product may be marketed, but if a food residue is involved the Food and Drug Act officially regulates the tolerance permitted and hence, in effect, the use of the product. Perhaps the drug problems aren't too bad after all. Certainly, the responsibilities of the pharmacologist, both in experimental design and evaluation, are heavy.

It is to be hoped that this one condensed example will serve to illustrate the similarity of pharmacological responsibility in the various industries, for this is the one point I want to emphasize. Realization of this by management in these industries is extremely important at this time for pharmacologists in all branches are on the firing line in a struggle vital to everyone concerned. It is significant that for the first decade under the 1938 Act, including the tumultuous war years, all segments of the industries involved made great progress without undue hazards to the public. In other words, the laws and enforcement were functioning. Since about 1948, however, there has been developing a marked change in interest and emphasis in the interpretation and application of the various laws. Various groups, including the Federal agencies. Congressional committees, National Research Council, and American Medical Association, have entered the field, frequently at cross purposes and certainly with the result of introducing many uncertainties and adding problems to those already exisiting for the pharmacologist.

His major problems, regardless of industry affiliation, are, first, the ever-increasing complexity of his own profession, and, second, in the field of regulatory responsibility the confusion added to the picture by legal interpretations, political considerations, and sociological philosophies.

In spite of this, the average pharmacologist is highly satisfied in his profession and willing to assume the new responsibilities. It should be emphasized, however, that these problems are common to the various industries and that they demand real interindustry consideration at management level as well as at scientific level.

factors affecting the development of a prescription department in a suburban drugstore



by Joseph H. Kern* and Earl P. Guth†

This Ohio survey shows that location, soda fountains, and type of prescription service are directly related to increases in prescription volume.

A GREAT MANY opinions have been expressed as to why certain pharmacies and pharmacists have been successful or unsuccessful in the retail drug business. Store locations, store arrangement, advertising, window displays, educational background, general or localized economic conditions all have received attention.

In spite of the voluminous literature on these and other factors affecting the general retail drug business, little work has been done in trying to determine the fundamental factors that are related to the development of a successful prescription department.

Abstract of a thesis submitted by Joseph H. Kern to The Graduate School, The Ohio State University, in partial fulfillment of the requirements for the degree of Master of Science.

Presented before the Conference of Teachers of Pharmacy Administration at the convention of the A. A. C. P. in Buffalo, August, 1951.

* Instructor in the College of Pharmacy, The Ohio State University, Columbus, Ohio.

† Professor of Pharmacy, The Ohio State University.

Selection of the City and the Stores

An extensive survey revealed the city selected for this study to be a typical midwestern city representing the general and economic conditions existing in the nation for the period 1942–1950 inclusive.

The three drugstores chosen for this investigation are located within the city selected and represent three distinct types of retail drug establishments.

Store "X" is an independently owned and operated retail drugstore without a soda fountain and is located approximately one-half mile from the downtown shopping area.

Store "Y" is an independently owned and operated retail drugstore with a soda fountain and is located at the apex of the downtown area.

Store "Z" is a conventional drug establishment associated with a multi-unit organization and is located in the downtown shopping center.

TABLE I.—PRESCRIPTION COUNT FOR STORE "X"

(New and Narcotic)

Year →	1942	1943	1944	1945	1946	1947	1948	1949	1950
Jan.	150	154	215	194	393	527	730	921	1,074
Feb.	168	182	173	191	378	513	679	888	1,107
Mar.	164	209	207	272	405	828	744	929	1,280
Apr.	173	199	212	295	544	553	673	870	1,071
May	100	177	181	277	399	602	632	890	1,096
June	148	192	175	257	403	572	641	845	973
July	185	181	203	210	495	512	668	818	908
Aug.	182	201	191*	237	494	601	682	999	934
Sept.	169	210	186	265	465	655	710	942	1,047
Oct.	138	135	192	262	456	760	813	881	1,110
Nov.	144	170	193	288	416	697	766	909	999
Dec.	155	238	210	447	487	770	802	998	1,030
Total	1876	2248	2338	3195	5335	7590	8540	10,890	12,629

* Soda fountain removed.

Essentially two different sources were utilized in gathering the facts pertinent to this study. The general information pertaining to the general and economic conditions of the City was obtained by visitation and correspondence with the City Library, City Chamber of Commerce, county and state Tax Offices, The State Board of Pharmacy, Social Security Administration, and the Bureau of the Census.

The more specific facts relevant to the stores was obtained by personal contact with the proprietors and managers of the stores. To supplement all the above information, limited inquiry was made of the public, medical practitioners, medical service representatives, and others in the community.

Data concerning prescriptions (new and narcotic), customer count, and general information was obtained from each store. Additional information was availabie from Store "X". The customer count for Stoie "Y" was not complete.

Discussion

The number of prescriptions filled each year in Store "X" reveals an increase for each year over the previous year. In 1950, the total number of prescriptions filled in Store "X" was 12,629, or approximately seven times greater than the total of 1876 prescriptions filled in 1942. It is significant that prior to the removal of the soda fountain in 1944, the increase in the total number of prescriptions filled each year was not as great as the increase in the years following.

The largest annual increase before the removal of the fountain was in 1943. This increase amounted to 417 prescriptions. The largest annual increase after the removal of the soda

(Continued on page 572)

Authors' Summary

There is good evidence that drugstores without soda fountains do a better prescription business than those with soda fountains.

It is indicative that the growth of the prescription department is proportional to the amount of professional service rendered by the pharmacist to the patient and the practitioner.

The removal of the soda fountain seems to be associated with an increase in prescription volume.

The personality of the pharmacist and the emphasis which he places on his prescription department are conducive to the development of prescription business.

Good professional service seems to be the prime motivator in respect to the customers patronizing a particular pharmacy.

There is evidence that indicates a change in the mode of medical practice in this area, particularly from 1946 on.

A convenient aid for prescribers and compounders of dermatologic medication

a hydrophilic suspension vehicle

Report from the Laboratory of the American Pharmaceutical Association

*by Samuel W. Goldstein**

THE EXCELLENCE of sodium carboxymethylcellulose[1] as a suspending agent for dermatologic preparations was mentioned in the recent publication on calamine lotion and phenolated calamine lotion (1). The further utilization of CMC-M dispersions as dermatologic suspension or lotion vehicles has been tested. The preliminary studies, which are reported here, indicate the wide usefulness of CMC-M as a pharmaceutic aid in the extemporaneous compounding of many liquid preparations requested by dermatologists.

Powdered Lotion Vehicle

A recent article discussed the advantages of a powdered ointment base that required the addition of water to restore its unctuous consistence (2). Addition of water to produce concentrated dispersions of CMC yields viscous gels that can be utilized as ointment bases. Less concentrated dispersions are excellent hydrophilic lotion vehicles. The only equipment required for rapid formation of the CMC dispersions is an electric mixer or a blender. For extemporaneous compounding, the powder is mixed with the water at room temperature for three to five minutes in a mixer or for one to two minutes in a blender to form a clear dispersion in which the medicinal agent can be dissolved or suspended.

* Director of the Laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION.

[1] CMC-Type 70-Medium Viscosity of the Hercules Powder Co., Wilmington, Del.

[2] Aerosol OT of the Cyanamid and Chemicals Corporation; small lots available from Eimer & Amend, 633 Greenwich St., New York City.

[3] Supplied by Atlas Powder Co., Wilmington, Del.

Author's Summary

The versatility of sodium carboxymethylcellulose as a suspending agent has been utilized in the preparation of 34 pharmaceutically satisfactory dermatologic products. These products can be prepared without heat and in a reasonable period of the compounder's time.

Formulas are given for suspension vehicles that can be prepared for extemporaneous use or for use as stock vehicles in which prescribed dermatologic medicinals can be suspended. The vehicles are neutral when unbuffered and they can be buffered in the acid range to about *p*H 4.5.

When applied to dermal surfaces in thin layers, these suspensions dry in 3 to 5 minutes to form hydrophilic films which can be removed by gentle washing with water.

The stock suspension vehicle can be an additional technical aid to the pharmacist who is interested in compounding dermatologic prescriptions. It is also a convenient prescription vehicle for the physician to indicate: Vehicle S1 for the unbuffered stock vehicle; and Vehicle SH for the buffered stock vehicle.

TABLE 1.—DERMATOLOGIC PRODUCTS PREPARED WITH STOCK SUSPENSION VEHICLE S1

Substances Mixed with 95 Cc. of Vehicle[f]	Mixing Vessel[a]	Condition After 30 Days at Room Temperature
Benzocaine 5%, Glycerin 3%	M	c
Benzocaine 5%, Neocalamine 16%, Glycerin 3%	M	b
Benzoic acid 5 Gm., Salicylic acid 3 Gm., Alcohol 20 cc., Vehicle 80 cc.	B	e
Bismuth subcarbonate 5%, Glycerin 3%	M	b
Bismuth subgallate 5%, Glycerin 3%	M	b
Bismuth subnitrate 2%, Glycerin 2.5%	M	e
Boric acid 4.25%, Glycerin 3%	M	b
Cade oil 5%, Triethanolamine 1.5%	M	b
Calamine 10%, Glycerin 3%	M	b
Coal tar solution 5%	B	b
Coal tar solution 8.5 cc., Starch 3.3 Gm., Zinc oxide 3.3 Gm., Vehicle 70 cc., Glycerin 4.5 cc., Alcohol 16.5 cc.	M & B	b
Gentian Violet 0.2%, in Glycerin 3% and Alcohol 2%	B	b
8-Hydroxyquinoline 0.055%, Alcohol 1%, Glycerin 3%	B	b
Ichthammol 10%, Glycerin 3%	M	b
Ichthammol 4 Gm., Calamine 8 Gm., Zinc stearate 2 Gm., Water 2 cc., Glycerin 5 cc., Vehicle 110 cc.	M	b
Ichthammol 6.1%, Zinc oxide 19%, Glycerin 3%	M	b
Menthol 0.25%, Alcohol 2%	B	b
Neocalamine 8 Gm., Zinc oxide 8 Gm., Talc 10 Gm., Starch 10 Gm., Benzocaine 5 Gm., Glycerin 20 cc., Vehicle 70 cc.	M	b
Phenol, liquefied 1%, Glycerin 3%, Amaranth solution 0.5 cc.	B	b
Phenol, liquefied 2%, Glycerin 3%, Amaranth solution 0.5 cc.	B	b
Resorcinol 2%, Glycerin 3%	B	d
Resorcinol 1.11%, Mercuric chloride 0.07%, Glycerin 3%	M	d
Sodium borate 5 Gm., Zinc oxide 5 Gm., Talc 5 Gm., Menthol 1.4 Gm., Alcohol 2 cc., Glycerin 3 cc., Vehicle 94 cc.	M & B	b
Starch 10%, Glycerin 3%	M	b
Sulfadiazine 5%, Glycerin 3%	M	b
Sulfadiazine 5%, Zinc oxide 10%, Glycerin 3%	M	b
Sulfamerazine 5%, Glycerin 3%	M	b
Sulfur (precipitated) 5%, Glycerin 3%	M	c
Sulfur 6%, Alcohol 10%, Camphor spirit 10%, Vehicle 80 cc.	M & B	b
Sulfur 6.7 Gm., Boric acid 6.7 Gm., Salicylic acid 1.25 Gm., Resorcinol 2.5 Gm., Camphor spirit 4 cc., 70% Alcohol 37.5 cc., Vehicle 55 cc.	M & B	b
Sulfur 5%, Salicylic acid 2%, Glycerin 3%	M	b
Sulfur 5%, Zinc oxide 10%, Glycerin 3%	M	b
Talc 10%, Glycerin 3%	M	c
Tannic acid 5 Gm., Glycerin 5 cc., Water 1 cc., Vehicle 94 cc., Sodium sulfite (anhydrous) 0.2 Gm.	M	b
Thimerosal 0.1%, Glycerin 3%	M	b
Titanium dioxide 5%, Glycerin 3%	M	b
Tripelennamine hydrochloride 1 Gm., Water 2 cc., Calamine 10 Gm., Camphor 2 Gm., Alcohol 2 cc., Glycerin 5 cc., Vehicle 92 cc.	M & B	b
Zinc oxide 10%, Glycerin 3%	M	b
Zinc oxide 6 Gm., Talc 6 Gm., Glycerin 6 cc., Alcohol 4 cc., Vehicle 84 cc.	M	b

a. M for mortar; B for bottle. Insoluble ingredients are rubbed to a paste in a mortar. Alcohol-soluble ingredients are added to the vehicle or suspens ion in a bottle.
b. No separation or easy uniform redistribution by shaking.
c. Separation with difficult redistribution by shaking.
d. Water-clear dispersion.
e. Product thickens and makes pouring difficult, or it gelatinizes to semisolid.
f. Unless the volume of vehicle is given.

Some dermatologic medicinals contain wetting agents, e. g., most detergent agents. When no wetting agent is added with the medicinal substance, a wetting agent must be included in the vehicle. Dioctyl sodium sulfosuccinate[2] has been found to be a most suitable wetting agent in dermatologic lotions. It should be kept on hand as a 1% solution, or as a 5% suspension which gives a clear solution immediately upon dilution to 1%. The effective concentration of 0.065% Aerosol OT in 2 to 2.1% CMC-M dispersions produces an opalescent liquid vehicle.

Stock Suspension Vehicle

In a paper read before the 1950 U. S. Pharmacopœial Convention, L. M. Ohmart discussed the advantages of having a stock lotion vehicle to which the dermatologist might refer in writing prescriptions (3). He mentioned the work that had been reported in the search for a suitable lotion vehicle (4). A convenient stock vehicle (S1) for hydrophilic film-forming suspensions is prepared from the following formula:

(Continued on next page)

Hydrophilic Suspension Vehicle

• • • • • • • • • • • • *from page 551*

Stock Dermatologic Vehicle (S1)

Sodium carboxymethylcellulose, Type 70, medium	21.0 Gm.
Water	935.0 cc.
Dioctyl sodium sulfosuccinate, 1% solution	65.0 cc.
Liquefied phenol	1.0 cc.
Tween 20[3]	0.3 cc.
To make about	1000.0 cc.

Directions: Place 700 cc. of water in the mixing vessel, start the stirrer, add the CMC-M slowly and stir until clear. Add the remaining 235 cc. of water, 65 cc. of 1% dioctyl sodium sulfosuccinate solution, 1 cc. of liquefied phenol and 0.3 cc. of Tween 20, mix well, then bottle.

Extemporaneous Suspension Vehicle

When the vehicle (El) and the dermatologic product are prepared extemporaneously, it is convenient to make at least 250 cc. or about 8 fluidounces of the vehicle as follows: Mix 5.3 Gm. of CMC-M with 235 cc. of water in an electric mixer to form a clear liquid, then add 16 cc. of 1% Aerosol OT solution without excessive stirring. The medicinal agent is mixed with enough glycerin to have 3% v/v of glycerin in the final product and enough of the vehicle to form a smooth paste. Additional vehicle is added with trituration to make the desired volume. At least 5 cc. more than the volume of liquid to be dispensed should be prepared in order to allow for the loss in transferring from one container to another.

In some instances it is possible, and sometimes it is preferable, to use the bottle as the final mixing vessel. This is generally true when the medicinal agent is added as a prepared solution; e. g., coal tar solution, thymol in alcohol, etc. In such instances, transfer the measured volume of vehicle to the bottle, add the solution of the medicinal agent, immediately close the bottle and shake vigorously. When insoluble powders such as zinc oxide, starch, sulfur, etc., are to be suspended in the vehicle, it is preferable to use a mortar and pestle. It is also feasible to add some medicinal agents to the vehicle in the original mixing vessel, and to use the mechanical mixer to complete the suspension. It is well to remember that only sufficient stirring to suspend the medicinal agent is necessary and that emulsification is not required.

When medicinal agents are added in the form of alcoholic solutions, it is not necessary to include glycerin in the finished lotion. The prescriber might wish to add another substance that has a plasticizing action in film formation. For these reasons, glycerin is omitted from the stock lotion vehicle, but, when no substituting material is included in the prescription, 3% v/v of glycerin should be added. The glycerin can be added at any convenient point in the compounding procedure. The presence of 3% of glycerin tends to eliminate any drawing of the treated surface while the lotion film is drying.

The lotions that were prepared with the stock vehicle, the suspending procedure followed and the observations are summarized in Table I.

Buffered Suspension Vehicles

Sodium carboxymethylcellulose, unlike bentonite, does not lose its value as a suspending agent when acidic medicinal agents are present. A 2% CMC-M dispersion can be buffered at about *p*H 5 to serve as a vehicle for dermatologic preparations According to D. S. Anderson and J. W. Hadgraft, a suspension of titanium dioxide is most efficacious in the treatment of eczema when applied in an acid base (5).

A vehicle for dermatologic preparations buffered at about *p*H 4.5 is prepared from the following formula:

Buffered Suspension Vehicle (EH)

Sodium carboxymethylcellulose	20.0 Gm.
Disodium phosphate, anhyd.	10.0 Gm.
Citric acid	10.0 Gm.
Dioctyl sodium sulfosuccinate, 1% solution	65.0 cc.
Water	935.0 cc.
Liquefied phenol	1.0 cc.
To make about	1000.0 cc.

NOTE: Glycerin, 30 cc., is added with the medicinal agent unless it is expressly omitted from the final formula.

Directions: Dissolve the disodium phosphate and citric acid in 235 cc. of water, add this solution to the CMC-M dispersed in 700 cc. of water, then add the dioctyl sodium sulfosuccinate solution and liquefied phenol.

Glycerin is added with the medicinal agent to aid in the formation of the primary smooth paste with insoluble materials. When a sufficient volume of alcohol is added with the medicinal agent, the glycerin is not required for its effect on the film formation of the product.

A stock buffered vehicle (SH) can be prepared

(Continued on page 578)

NEW PRESCRIPTION PRODUCTS

All items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists, through these pages, will have full information at the same time, or even before, products are detailed to the physician. For inclusion in this free editorial department, send descriptive literature to the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, *2215 Constitution Avenue, N. W., Washington, D. C. Where possible, all descriptions should follow the style shown on these pages.*

APOLAMINE

Description: Tablets, composed of Luminal, atropine sulfate, scopolamine hydrobromide, benzocaine, riboflavin, pyridoxine hydrochloride and nicotinamide.

Indications: For the control of nausea and vomiting stemming from a wide range of ailments. Indicated specifically in pregnancy, motion sickness, alcoholic gastritis and nonspecific vomiting, anesthesia and radiation sickness, and vomiting due to pain-relieving drugs.

Administration: As directed by physician.

Form Supplied: Bottles of 100.

Source: Winthrop-Stearns Inc., New York, N. Y.

BACIMYCIN

Description: Ointment combining the antibiotic efficacy of both bacitracin and neomycin.

Indications: Topical treatment for most skin infections, minor abrasions, and wounds.

Administration: As directed by physician.

Form Supplied: One-half ounce tubes.

Source: Walker Laboratories, Inc., Mount Vernon N. Y.

BIDROLIN

Description: Tablets, each containing: choline, 2.5 gr.; and dehydrocholic acid N. F., 1.9 gr.

Indications: In the management of indigestion, constipation and flatulence of biliary origin, in biliary stasis, noncalculous cholangitis and cholecystitis when the gallbladder is still able to expand, and in maintaining drainage after gallbladder surgery.

Administration: Two tablets after meals, two or three times daily, as required.

Form Supplied: Bottles of 100.

Source: The Armour Laboratories, N. Chicago, Ill.

COBETARON CAPSULES

Description: Capsules, each containing: vitamin B_{12}, 10.0 mcg.; stomach powder, 100.0 mg.; folic acid, 1.0 mg.; ascorbic acid, 50.0 mg.; ferrous sulfate, dried, 194.4 mg.; and desiccated liver, 200.0 mg.

Indications: In the treatment of microcytic, macrocytic and hypochromic anemias.

Administration: One capsule three times daily.

Form Supplied: Bottles of 50 and 500.

Source: The Warren-Teed Products Company, Columbus 8, Ohio.

DODECABEE-1000

Description: High potency crystalline vitamin B_{12} injection containing 1,000 mcg. of vitamin B_{12} crystalline U. S. P. per cc.

Indications: In the treatment of pernicious anemia, some other macrocytic anemias, and experimentally in various neurologic disorders and osteoarthritis.

Administration: 0.1 or more cc. as indicated by the condition of the patient.

Form Supplied: R/C vials of 10 cc. in boxes of 1, 6, and 25.

Source: E. S. Miller Laboratories, Inc., Los Angeles, Calif.

HEDULIN

Description: Oral anticoagulant, chemically, 2-Phenylindane-1,3-dione.

Indications: For treatment of thromboembolic disease, including thrombophlebitis, pulmonary embolism, phlebothrombosis, coronary, aortic, cerebral, postpartum and postoperative thrombosis.

Administration: Divided half in morning, half at bedtime. Initial dose: 200 to 300 mg. Maintenance dose: 50 to 100 mg. daily. For immediate anticoagulant therapy, heparin (usually needed for only one day) may be injected simultaneously with initial Hedulin dose.

Form Supplied: 50-mg. tablets in bottles of 100.

Source: HED Pharmaceuticals, Inc., New Rochelle, N. Y.

(Continued on next page)

M. I. V.

Description: Solution, each 0.6 cc. of which contains: vitamin A, 5000 U. S. P. units; vitamin D, 1000 U. S. P. units; vitamin C, 50.0 mg.; and vitamin B_{12} U. S. P. Crystalline, 5 mcg.

Indications: For prophylaxis and treatment of the common vitamin-deficiency states, to prevent or treat rickets; to stimulate hematopoiesis; and to promote normal growth. Especially indicated for infants with a tendency toward allergies.

Administration: Infants under 1 year: 0.3 cc. Children 1 to 12 years: 0.6 cc. or as directed by physician. May be given directly into mouth or mixed with fruit juice, cereal, milk, or other food.

Form Supplied: One-ounce bottles with graduated dropper.

Source: The Wm. S. Merrell Company, Cincinnati, Ohio.

NIO-A-LET

Description: Tablets, containing 25,000 U.S.P. units of crystalline vitamin A acetate.

Indications: Vitamin A supplement.

Administration: As directed by physician.

Form Supplied: Bottles of 100 and 500.

Source: Nion Corporation, Los Angeles, Calif.

POLYVIMS

Description: Multi-vitamin tablets containing all the necessary vitamins and minerals required plus vitamin B_{12}, folic acid, pantothenic acid, and the trace elements.

Indications: In vitamin deficiencies; also as a supplement.

Administration: One tablet daily, or as required.

Form Supplied: Bottles of 100, 500 and 1000.

Source: E. S. Miller Laboratories, Inc., Los Angeles, Calif.

RHOPLEX

Description: Intramuscular injection compound containing in each cc.: vitamin B_{12}, 29.3 mcg.; thiamin chloride, 20.0 mg.; riboflavin, 3.0 mg.; pyridoxine HCl, 1.0 mg.; pantothenic acid, 3.0 mg.; niacinamide, 100.0 mg.; choline chloride, 20.0 mg.; inositol, 10.0 mg.; liver injection crude, 50%, and procaine hydrochloride, 1%.

Indications: For the treatment of pernicious anemias complicated by B-Complex deficiency, offering combined therapy in a single injection. Also said to be an effective and rapid adjunct therapy in the treatment of vitamin B complex deficiency associated with macrocytic anemias, and with sprue and celiac disease.

NEW

Administration: Daily dose of 1 cc. by intramuscular injection. May be adjusted according to individual requirements and response to therapy.

Form Supplied: 5- and 10-cc. multiple-dose vials.

Source: The Vitarine Co., Inc., New York, N. Y.

STREPELS (Vet.)

Description: A combination of penicillin and dihydrostreptomycin in pellet form.

Indications: For implantation in fowl to check many poultry diseases such as sinusitis in turkeys.

Administration: Pellets should be implanted under the loose skin at the top of the neck as close as possible to the skull of the bird.

Form Supplied: Vials of 100 strepels, each containing 5,000 units of procaine penicillin G and the equivalent of 6.25 mg. dihydrostreptomycin base as sulfate in special absorbable base.

Source: Wyeth, Inc., Philadelphia, Pa.

VERGITRYL TABLETS

Description: A standardized preparation of Veratrum viride in tablet form.

Indications: In the control of hypertension.

Administration: Because of the difficulty of adjusting the dose, close observation of the patient is essential and hospitalization may be advantageous. In the average case, tablets should be administered three times daily: after an early breakfast, four hours before the evening meal, and at bedtime. Initial dose is one tablet three times daily, and the total daily dose is increased by three tablets at two-day intervals until toxic symptoms appear. When this occurs, the offending dose only should be reduced by one-half tablet. The effective dose may be as high as five tablets three times a day, but such large amounts are not usually tolerated.

Source: E. R. Squibb & Sons, New York, N. Y.

VI-AQUAMIN

Description: Capsules, each containing a combination of vitamins and minerals, including vitamins A, D, and E in water-soluble form.

Indications: Vitamin-mineral supplement.

Administration: Orally, one, two or more capsules daily as needed.

Form Supplied: Bottles of 50, 100, and 1000.

Source: U. S. Vitamin Corporation, New York, N. Y.

PRESCRIPTION PRODUCTS

Other New Products

(Chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy, and new dosage forms of prescription products).

AQUEOUS HORMONES

According to a recent announcement from *George A. Breon & Company*, New York, N. Y., steroid hormones in aqueous suspension have recently been introduced to the medical profession. Designed for intramuscular injection, the preparations are testosterone, estrone-testosterone, and progesterone. The latter is offered in two potencies: 10 mg. and 25 mg. per cc., in 10 cc. multidose vials. It is also supplied in oil solution in the same concentrations.

GANTRISIN DIETHANOLAMINE OPHTHALMIC OINTMENT

Gantrisin Diethanolamine Ophthalmic ointment is a new sulfonamide ointment valuable in the treatment of many eye infections, according to *Hoffmann-La Roche, Inc.*, Nutley, N. J. This new Gantrisin product, which is stable and requires no refrigeration, is effective in such infections as "pink eye" and "swimming pool conjunctivitis." It is available in $^1/_8$-oz. tubes for prescription use only.

METHIUM CHLORIDE

According to a recent announcement from *Chilcott Laboratories, Inc.*, Morris Plains, N. J., Methium Chloride, oral hypotensive agent, is now available in 125-mg. tablets. Methium Chloride is said to be of distinct value in the treatment of essential and benign hypertension.

MYTINIC LIQUID

According to a recent announcement from *Bristol Laboratories, Inc.*, Syracuse, N. Y., Mytinic liquid, oral hematinic, is now available with a new formula. Twice the quantity of vitamin B_{12} has been added to each tablespoonful. Each fluidounce of the new formula contains: ferric ammonium citrate, green, N. F., 667.0 mg.; thiamine hydrochloride, 10.0 mg.; riboflavin, 4.0 mg.; niacinamide, 100.0 mg.; liver fraction 1, N. F., 1.0 Gm.; and vitamin B_{12}, 20.0 mcg. This new formula is available in 8-ounce, 12-ounce and 1-gallon bottles.

PHENERGAN EXPECTORANT WITH CODEINE

Phenergan Expectorant with codeine, indicated for cough associated with the common cold, minor infections of the upper respiratory tract, or minor throat irritations, has recently been made available by *Wyeth, Inc.*, Philadelphia, Pa. The recommended dosage is one teaspoonful (5 cc.) every four to six hours and it is supplied in pint bottles.

PRANTAL METHYLSULFATE INJECTION

Prantal Methylsulfate Injection is the new form of the *Schering Corporation*, Bloomfield, N. J., anticholinergic agent recommended in the treatment of peptic ulcer and other acute conditions associated with hyperacidity or hypermotility of the stomach. This product, formerly supplied in tablets only, is now also available in multiple-dose vials of 10 cc., 25.0 mg. per cc., in boxes of 1 and 6 vials.

PYRIBENZAMINE CREAM WITH ZIRCONIUM

Ciba Pharmaceutical Products, Inc., Summit, N. J., has recently announced the availability of pyribenzamine cream with zirconium, for the relief of Rhus Dermatitis. This new form of pyribenzamine is a stable, vanishing cream type preparation, containing 2 per cent pyribenamine hydrochloride and the equivalent of 4 per cent zirconium oxide (13.8 per cent of zirconia hydrate containing 29 per cent ZrO_2) in a water-washable base, and is supplied in 1-oz. tubes.

RUBRAMIN

Rubramin, vitamin B_{12} concentrate, manufactured by *E. R. Squibb & Sons*, New York, N. Y., is now available in 10 cc. vials containing 100 micrograms of vitamin B_{12} activity per cc. This new form facilitates administration of more potent single dosages and also permits fractional usage to afford economy to the patient. Rubramin injectable products are supplied in concentrate and in crystalline form. Rubramin concentrate is available in both 5- and 10-cc. vials containing 30 micrograms per cc.; and in 10 cc. vials containing 50 and 100 micrograms per cc. Rubramin crystalline solution is available in 10-cc. vials with 30 micrograms per cc. Rubramin concentrate and crystalline are also supplied in ampuls of 1 cc. containing 15 micrograms per cc.

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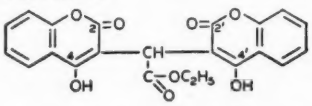
NNR

PRODUCTS RECENTLY ACCEPTED BY THE A. M. A. COUNCIL ON PHARMACY AND CHEMISTRY

Council descriptions of new drug products only are published regularly in THIS JOURNAL *as they are accepted. Rules upon which the Council bases its action appeared in the July (7:320) 1946 issue, and may be secured in pamphlet form upon request to the Secretary, Council on Pharmacy and Chemistry, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.*

ETHYL BISCOUMACETATE.—Tromexan Ethyl Acetate (Geigy).—$C_{22}H_{16}O_8$.—M. W. 408.35.—3,3′-Carboxymethylene bis-(4-hydroxycoumarin) ethyl ester.—The structural formula of ethyl biscoumacetate may be represented as follows:



Actions and Uses.—Ethyl biscoumacetate is a synthetic derivative of bishydroxycoumarin and similarly produces anticoagulant action by lengthening the prothrombin time through reduction of the prothrombin concentration of the blood. See the monograph on Bishydroxycoumarin.

Ethyl biscoumacetate is effective orally, alone, or as an adjunct to heparin sodium, for the prevention and treatment of conditions characterized or complicated by intravascular clotting. Compared with bishydroxycoumarin, ethyl biscoumacetate possesses the advantages of more rapid absorption, action, detoxification, and excretion, as well as shorter action and reduced cumulative effect. These properties provide greater safety. Reduced cumulative effect does not imply complete freedom from the danger of cumulative action inherent in the use of internal anticoagulants. Physicians must guard carefully against overdosage to avoid the development of hemorrhagic complications. The drug is contraindicated in the presence of hemorrhagic diathesis and should be used with caution in patients with impaired hepatic or renal function.

Dosage.—1.5 Gm. orally at once or in divided doses, is recommended as the average adult dose for the initial 24-hour period of treatment; subsequently, adults usually require 0.6 to 0.9 Gm. each day. With these amounts a therapeutic degree of hypoprothrombinemia is usually achieved within 18 to 24 hours. A more even prothrombin level may be maintained by administering the total daily amount in divided doses. In patients with impaired hepatic or renal function, or in whom an exaggerated response is anticipated, a smaller than average initial dose is advisable. Following the initial dosage, maintenance doses should be regulated by the results of blood prothrombin determinations. When anticoagulant therapy is used in the hospital or for ambulatory patients, the need for close supervision with frequent determinations of the prothrombin time is essential; for most purposes it is customary to prolong the prothrombin time to two or two and one-half times the normal. Daily determinations should be made during the first several days of treatment to determine the safe and effective dosage for each patient. Thereafter, determinations on alternate days or once or twice weekly may be sufficient. Prothrombin levels of 30 to 50% are considered satisfactory by some investigators; values below 10 to 15% are within the danger zone. It is customary to maintain a prothrombin time of 35 seconds, but when this is exceeded, the dosage should be reduced. When the situation requires more prompt anticoagulant effect than can be obtained by use of ethyl biscoumacetate alone, an initial injection of heparin sodium may be administered to institute therapy.

The action of the drug may be enhanced by the administration of salicylates which depress the prothrombin level. Overdosage should be treated by prompt withdrawal of the drug, intravenous administration of vitamin K, and repeated transfusions of fresh, whole, citrated blood or plasma until the prothrombin level returns to a safe concentration. Elevations of prothrombin time to 75 seconds not associated with hemorrhage usually return to a near normal range within 12 to 24 hours by prompt withdrawal of the drug only.

Tests and Standards—

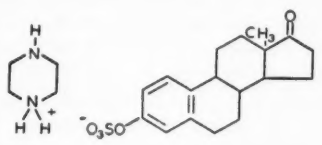
Physical Properties: Ethyl biscoumacetate is a white, odorless, bitter, crystalline solid which melts between 177 and 182°. Another form of the solid exists which melts be-

tween 154 and 157°. It is soluble in acetone and benzene, slightly soluble in alcohol and ether, and insoluble in water.
[For more information regarding tests and standards, and for dosage forms, see *J. A. M. A.*, **149,** 277 (May 17, 1952).]

Geigy Company, Inc., New York.

Tablets Tromexan Ethyl Acetate: 0.15 Gm. and 0.3 Gm. U. S. Patents 2,482,510, 2,482,511, and 2,482,512.

PIPERAZINE ESTRONE SULFATE.—Sulestrex Piperazine (Abbott).—$C_4H_{11}N_2 \cdot C_{18}H_{21}O_5S$.—M. W. 436.56.—Piperazine estrone sulfate marketed for use as a drug is stabilized with a small amount of free piperazine.—The structural formula of piperazine estrone sulfate may be represented as follows:



Actions and Uses.—Piperazine estrone sulfate has the same Actions and Uses as other estrogens.

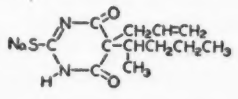
Tests and Standards—
Physical Properties: Piperazine estrone sulfate is a fine, white to creamy white, odorless, crystalline powder. It melts between 185 and 195° to a light brown syrup, which solidifies on further heating, and finally melts with decomposition between about 240 and 250°. It is slightly soluble in water and alcohol.
[For more information regarding tests and standards, and for dosage and dosage forms, see *J. A. M. A.*, **149:** 443 (May 31, 1952).]

Abbott Laboratories, North Chicago, Ill.

Tablets Sulestrex Piperazine: 0.75 mg., 1.5 mg., and 3 mg. U. S. Trademark 505,252.

THIAMYLAL SODIUM.—Surital Sodium (Parke, Davis).—$C_{12}H_{17}N_2NaO_2S$.—M. W. 276.34.—Sodium 5-allyl-5-(1-methylbutyl)-2-thiobarbiturate.—Thiamylal sodium is marketed as a mixture with sodium carbonate. The mixture is prepared by adding thiamylal and sodium carbonate to just enough sodium hydroxide solution to dissolve the salts. The pH is adjusted between 10.7 and 10.9. The solution is made up to volume with water, and is filtered, sterilized and lyophilized.

The structural formula of thiamylal sodium may be represented as follows:



Actions and Uses.—Thiamylal sodium is an ultra-short acting barbiturate and is particularly used for intravenous anesthesia in procedures of relatively short duration. Its anesthetic potency has been found to be about 1.4 to 1.5 times that of thiopental sodium so that smaller doses are required to produce an equivalent level of anesthesia. The cumulative effect of tiamylal sodium is reported to be less than that of thiopental sodium. Its action is rapid; anesthesia generally occurs within 20 to 60 seconds and recovery may be expected within 10 to 30 minutes after the last injection, depending upon the amount of the drug administered.

Thiamylal sodium is employed intravenously as the sole anesthetic agent in relatively short surgical procedures and as a supplement to local anesthetics during regional and spinal anesthesia or for induction prior to general anesthetics during prolonged procedures. It is compatible with the use of curare drugs employed to increase surgical relaxation. It is also administered rectally for diagnostic procedures in children.

Thiamylal sodium is detoxified by the liver and should not be employed in patients with hepatic dysfunction or disease. It should be employed with caution in the presence of respiratory disease or obstruction, anemia, obesity, severe disturbance of arterial tension, and cardiac failure. In short, this agent should be avoided whenever the intake or distribution of oxygen is impaired. It is contraindicated in traumatic shock or in conditions of impending shock.

Complications encountered are those of barbiturates in general, especially respiratory depression, hypoxia, laryngospasm, hypotension, and excitement. The drug should be employed only by anesthetists familiar with the signs of anesthesia peculiar to intravenous barbiturates and the precautions in the use of these agents

Tests and Standards—
[For more information regarding tests and standards, and for dosage and dosage forms, see *J. A. M. A.*, **149:** 369 (May 24, 1952).]

Powder Surital Sodium: 1 Gm. Steri-Vials packaged with or without diluent. U. S. Patents 2,153,712 and 2,153,729. U. S. Trademark 500,405. Parke, Davis & Company, Detroit.

A GLOSSARY

The Report of the A. Ph. A. Committee on Professional Terminology ably discusses many of the common terms now used, and singles out those words and descriptive phrases which are most accurate and effective for general use.

History of This Report

At the 1947 convention, a paper on professional terminology was presented to the Section on Practical Pharmacy. During the subsequent discussion the thought was expressed that the ASSOCIATION should take some further action to bring about a more standard and effective usage of language symbols to express what pharmacy represents. A resolution was therefore passed by the Section and subsequently approved by the 1947 House of Delegates and the ASSOCIATION'S General Session.

Upon consideration by the Council, the project was referred back to the Section on Practical Pharmacy, with the suggestion that the Section itself develop the report referred to in the resolution. When the Council's action was reported to the Section at the 1948 convention, the Section chairman was instructed to appoint a special Committee on Professional Terminology. The Committee appointed was intended to have as broad a viewpoint as possible. Thus it included backgrounds and viewpoints representing not only the Section as such but the practice of pharmacy —both public and institutional, pharmaceutical education, pharmaceutical industry, editorial and public relations work, and the laity.

This, then, is the origin and background of the report. It represents a synthesis of considered opinion concerning the positive and negative charges carried by many professional designations frequently used in pharmacy. The conclusions reached by the Committee are briefly explained in the comments attached to the various terms.

The objective of the Committee, and of those whom the Committee consulted on various points, has been to clarify and guide thinking on term usage. The objective has not been to concoct something revolutionary or impressively pedantic.

Submitted by:

Edward C. Elliott
Nicholas W. Fenney
Don E. Francke
Robert C. Gasen
James S. Hill
Elmer M. Plein
Glenn Sonnedecker, *Chairman*

This report stems from a common conviction that many of us use terms that do not carry an accurate professional connotation concerning pharmacy's personnel, services, and facilities. In contrast, great care has been used by other health professions to avoid use of business terms or ambiguous phrases in expressing publicly various apects of these professions. The annotated list below represents an attempt by the AMERICAN PHARMACEUTICAL ASSOCIATION to further professionalize some of the language symbols of pharmacy and to extend and standardize their usage. (Attention is also focused on certain terms now in common usage that should be dropped because of lack of clarity or professional expressiveness.)

No one will long be fooled by fancy names for unprofessional conduct, shoddy service, or unsocial activities; however, the average competent pharmacist—in the various branches of the profession and pharmaceutical industry—offers society a distinctive service that should be expressed as clearly as possible. It has been well said that professionalism is largely the *manner* in which things are done. And this includes talking and acting the professional role as well as providing the necessary services.

As a stimulus in this direction the annotated lists were prepared under the direction of the Section on Practical Pharmacy of the AMERICAN PHARMACEUTICAL ASSOCIATION. The ASSOCIATION urges that all those who at times publicly represent some branch of pharmacy in print or speech give favorable consideration to adopting the "recommended" terms as standard usage. Although this report may have special significance to practicing pharmacists and other members of the ASSOCIATION, it is hoped that cooperation will be extended, in particular, by pharmaceutical publications, schools, advertising agencies and other groups having a special responsibility because of their influence on the attitudes and thinking of the public, the related professions, and the profession of pharmacy itself.

OF PROFESSIONAL TERMS IN PHARMACY RECOMMENDED

PERSONNEL

Associate, or Staff Member: Somewhat vague but acceptable substitute for *clerk* as designation of licensed personnel (*pharmacist* preferable).

Druggist: May be considered legal and practical equivalent of *pharmacist*, although in this country and abroad the term *druggist* sometimes has legally designated a kind of second-class pharmacist of limited qualifications. *Pharmacist* is thus preferred as professionally distinctive; *druggist* may carry a connotation preferred for licensed practitioners operating a general store with a pharmaceutical department.

Hospital Pharmacist: Designates those in institutional practice, when necessary to differentiate.

Manufacturing Pharmacist: Designates those primarily concerned with drug manufacture (also a manufacturing firm primarily under supervision of pharmacists). *Pharmaceutical manufacturer* designates any producer of substances primarily for ultimate prescription use. *Proprietary manufacturer* designates producers of household or packaged remedies.

Medical Service Representative, Manufacturer's Representative (also for licensed personnel, **Medical Service Pharmacist or Medical Advisory Pharmacist):** Preferred designations for the professionally educated advisor, often ineptly titled *detail man*, which is characterless and of uncertain meaning to the uninitiated.

Pharmacist: Preferred designation for owner, manager, or employee licensed to practice pharmacy (*Cf* druggist).

Pharmacy Intern and Internship: Designations for a prospective pharmacist and his role while securing the "practical experience" qualification for licensure. Now standard usage in hospital pharmacy; these terms also may be used for referring to required supervised experience in a public pharmacy (to replace *apprentice*, a carry-over from former trade-apprentice status). *Candidate of pharmacy* is an expressive term popularized in a number of other countries.

Practicing Pharmacist: A general designation setting apart those who compound and dispense drugs from those in manufacturing, research, administration, etc.

SERVICES

Dispensing: Has improved connotation in such usage as "prescriptions (or drugs) dispensed," as compared with prescriptions "sold."

Fee: "Prescription fee" preferable to "prescription price" (analogous to medical fee).

Patient: Paralleling the insistence on professional connotations in medicine, the pharmacist may be described as dispensing prescriptions to a physician's *patient* and health supplies to a *patron* (rather than to *customers*).

Pharmacy (scope of): True meaning of the term should be preserved, particularly in referring to activities of practicing pharmacists—maintaining a clear-cut distinction between *pharmacy* and unrelated side-line activities. (The over-all operation of the average pharmacy is not exclusively the practice of pharmacy.) In general, pharmacy has been considered the profession and science embracing a knowledge of medicinal agents; the manufacture, compounding, or dispensing of medical agents; their identification, selection, preservation, combination, analysis, and standardization; and research and other activities pertaining to these functions.

Practice of Pharmacy, Pharmaceutical Profession, and Prescription Practice: Preferable in public usage to *drug business, drug game*, or *drug trade*.

Promoting or Developing prescription practice or pharmaceutical service: Preferable to the term *merchandising* (i. e., "to trade or traffic in") *Merchandising* applies in restricted usage to other than health products.

PHYSICAL PLANT AND PRODUCTS

Department Titles (for a general pharmacy): Prescription Department; Sick Room Supplies; Surgical Appliances; Dietary Supplements; Household Chemicals and Remedies; Personal Hygiene and Grooming; Feminine Hygiene; Baby Department; Photographic Supplies and Stationery. (Titles from an article by Snowden, to which the pharmacist is referred for the reasoning behind selection of specific terms, as well as for other suggestions: J. AM. PHARM. ASSOC., *Prac. Pharm. Ed.*, **6**: 375 Dec., 1945.)

Household Remedies or Packaged Medicines: General terms for all medications (trade-name and common-name products) believed to be more frequently used without medical supervision (than on prescription). (Cf. *proprietaries.*)

Pharmacy: Preferred to indicate the pharmacist's establishment. *Drugstore* now may have a frequent lay connotation of a more general type of establishment with a limited pharmaceutical department (contrasted with one where professional service predominates), and may be preferable for use in that specific sense.

Pharmacy, Pharmacy Dispensary, or Pharmacy Laboratory: Preferable to *drug room* or *drug shop* in hospital usage.

Prescription Drugs: General term for all medications primarily intended for use under supervision of physician.

Prescription Specialties: Trade-named drug products primarily intended for use under supervision of a physician (preferable to *ethical proprietaries*).

Proprietaries: Trade-named drug products believed to be more frequently used without medical supervision (than on prescription). (Cf. *household remedies.*)

Stock: When referring publicly to health products, use *drugs, health supplies, medications, products*, or *stock*. Common usage of *merchandise*, in this pharmaceutical sense, is classed as "not recommended."

(Continued on page 570)

by Herman Ehrlich, M.D.*

CURRENT CONCEPTS OF BURN THERAPY

Dr. Ehrlich's paper focuses the pharmacist's attention on the many developments in burn therapy, and reviews the several techniques now being employed.

ALTHOUGH no final or universally accepted method of treatment has been determined, considerable progress toward a standardized therapy has been made in the past few years. World War II, with a high incidence of burn cases in the armed services, the current experience in Korea, and the possibility of atomic attack, have all contributed to the medical profession's growing interest in and knowledge of burn therapy.

Incidence of Burns

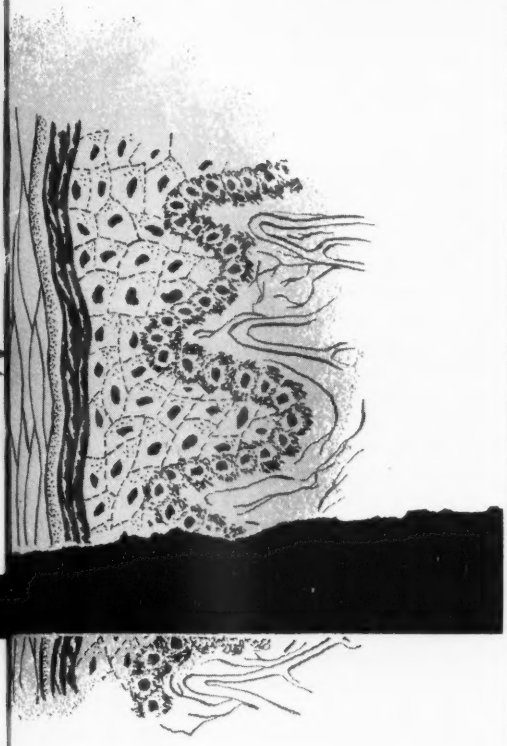
Burns and scalds account for about 8,000 lives annually in the United States. Additionally many thousands suffer serious and disfiguring, but non-fatal, injuries each year. These burns are of sufficient severity to require medical attention. The number of minor burns, vastly in excess of those requiring medical care, are home, office or factory-treated, and hence unreported in the incidence data.

Death as a result of both civilian and military burns is on the decline. Studies issued by the Metropolitan Life Insurance Company claim a marked drop. Their data show that 40 years ago fatal burns and scalds were several times as high as they are today. The mortality rate has been sharply cut as recently as from 1936 to 1940. During that period the civilian death rate declined by nearly a half.

Military medical literature provides additional evidence on the decline of burn fatalities. In the Navy and Marine Corps, the case fatality rate from burns was 8.7 per cent in World War II, as compared with a case fatality rate of 22.9 in World War I, a decline of 14.2 per cent in the fatality rate of all burn cases. (This is a reduction of 62% in the number of deaths.) Figures prepared by the Army are about the same as the Navy's.

The number of burns of sufficient severity to demand medical care presently will fade into insignificance in the event of an atom bomb attack. The size of the problem is indicated by the number of burns suffered in the two atom bomb attacks on Japanese cities during the last war. Ac-

* M.D., University of Vermont; B.S., New York University; PH.G., Columbia University College of Pharmacy. Dr. Ehrlich has done intensive work in burn therapy and practices at 449 West 14th Street, New York, N.Y.



Author's Summary

Although the civilian death rate from burns and scalds declined by nearly one-half during the 1936–1940 period, burns and scalds still claim approximately 8,000 lives annually in the United States.

Severity of burns is indicated, usually at once, by the color of the injured skin, and the classifications are first-, second-, or third-degree burns.

In most mortality cases attributed to burns, it is the effect of shock, rather than surface tissue destruction, which causes death.

According to official estimates, burns are believed to have caused about half the fatal casualties and three-quarters of all casualities at Hiroshima and Nagasaki.

Treatment to combat infection and nutritional therapy are integral parts of modern-day burn therapy.

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One of the leading research workers on burns resulting from atomic explosions estimates that, in the event of an attack on any American city of size, burn casualties will occur "in the thousands." A public health official states that in the event of an atomic attack on New York City, at least 35,000 to 40,000 persons will suffer flash-burn injuries of varying degrees of severity.

Severity of Burns

Burns of all types are classified according to severity as first-, second-, or third-degree burns. Severity is indicated, usually at once, by the color of the injured skin. Minor, or first-degree burns, turn the skin pink; more serious, but, still first-degree, burns turn it red. Second-degree burns redden and blister the skin (vesication). Third-degree burns, the most serious of all, cause patches of white skin on burned areas, with actual tissue destruction (necrosis). In third-degree burns a charring of the skin may also occur.

In serious burn cases all degrees of burn frequently occur. The determination of the extent of injury cannot always be easily determined since the depth of the injury is not apparent at all times. Burns which to cursory examination may appear minor at times are of great severity.

General Effects of Serious Burns

The effects of second- and third-degree burns go far beyond the destruction of surface tissue. Such burns cause the loss of blood and other body fluids, with such deprivation frequently affecting the functioning of vital organs adversely.

In serious burn cases the patient, in addition to suffering extreme pain, usually grows pale within eight hours after injury. A state of shock follows, producing profuse sweating and the onset of a kind of stupor during which the patient no longer feels the full effect of his injuries. Temperature and blood pressure drop below normal rapidly, the pulse becoming fast and faint.

(Continued on next page)

Burn Therapy

• • • • • • • • • • • • *from page 563*

In areas of second-degree burns the cells and blood vessels lose vital salts and fluids. These permeate the tissues and move toward the surface to form the blebbing or blistering characteristic of second-degree burns.

In third-degree burn areas the dysfunction of the vascular bed is more serious, with a greater loss of vital salts and fluids. Shock is more severe; destruction of cells and tissue more complete. In such cases blebbing usually does not take place, the disintegrated cells becoming a brownish mass several hours after injury.

The Nature of Burn Shock

The most serious effects of second and third-degree burns are those attributable to shock. In most mortality cases it is the effect of shock, rather than surface tissue destruction, which causes death. Even when fatality does not result, the effects of shock are severe. The loss of blood and other body fluids reduces circulation to vital organs, chiefly the brain, the liver, and the kidneys. With the brain partially deprived of oxygen, the patient either loses consciousness or becomes semi-comatose.

Approximately 60 to 75 per cent of all deaths attributable to burns are due to shock, according to one group of investigators. They observe, however, that under modern methods of treatment of second- and third-degree burns capable of causing death, "shock is not only one of the easiest to cure, but also to prevent."

Infections in Burns

Septic complications (the spread of poisonous substances of bacterial origin) are, as previously stated, a frequent cause of death in burn cases. As a consequence, an effort is made to prevent "burn toxemia" by aseptic local treatment of the burned surface.

The most frequent cause of death from burn toxemia is a condition known as hepatic necrosis, that is, the entrance of poisonous substances into the liver, with consequent destruction of the cells. Another cause of death, less frequent, is a bacterial attack on the functional elements of the adrenal glands.

A high degree of susceptibility to infection is inherent in burns. The removal of blisters results in the formation of a fibrin film over the burned area. The film is a fertile culture medium for bacteria. As a consequence, opened blisters can result in infection.

Treatment of Minor Burns

Most of the measures outlined apply only to severe burns. Minor or first-degree burns generally require only local treatment. Shock is infrequently encountered, and the danger of deep-seated infection is slight. Minor burns can be effectively treated with a simple dressing, to minimize the danger of infection, and the use of a bland emollient and protective ointment.

There is, however, always the danger that the depth and severity of minor burns will be underestimated. For this reason, it is stressed that, in the self-medication of minor burns, no ointment known to be dangerous in more severe burns be used. A bland substance, such as Vaseline petroleum jelly, is generally utilized. Such substances as tannic acid or an ointment containing tannic acid are now judged to be unsafe. After intensive investigation tannic acid now appears to produce impairment of liver function.

Evaluation of Serious Cases

Certain factors have an important influence on the recovery of the burn patient. Chief among these are respiratory tract involvement (for which there seems to be no effective treatment at present), extent of the burn, and general state of the patient. The patient's age must also be taken into consideration.

Treatment for Pain

The relief of pain in severe burns generally requires more than a local anesthetic. Though proper dressing, usually utilizing petrolatum and dressings or sterile petrolatum gauze dressings, is said to afford greater relief from pain in the long run, morphine injections are often employed to afford immediate relief. Repeated intravenous injections of a barbiturate are often substituted for morphine. The control of pain tends to allay fear and minimize the danger of shock.

Treatment for Shock

Shock therapy is aimed at prevention rather than treatment after shock becomes manifest. For this reason the severely burned patient is subjected to tests to determine the colloid content of the body. Various formulas for calculating colloid content are employed. One authority states that he relies primarily on a simple observation of hourly urinary output. Other indicators are the general appearance of the patient, evidence of dehydration, pulse, respiration, blood pressure, and temperature. Certain blood tests—chiefly hematocrit and hemoglobin determinations—also are utilized on occasion.

The amount of offsetting fluid administered depends on the extent of the burned area, the patient's weight or hematocrit and hemoglobin determinations. The initial intravenously administered fluid provided is usually in the neighborhood of 500 cc. to 1,000 cc. of plasma supplemented by isotonic sodium chloride containing 5 to 10 per cent dextrose. Subsequent administrations of replacement fluids are based on formulas largely determined by the condition of the patient as established by the various tests employed.

In a report on the treatment of burns following an atomic explosion, one investigator states that a salt solution taken by mouth can have a definite preventive effect on the development of burn shock. The salt solution recommended is made by dissolving 3 to 4 Gm. (1 teaspoon) of sodium chloride and 2 to 3 Gm. ($^1/_2$ teaspoon) of sodium citrate or ordinary baking soda in a liter (approximately 1 quart) of water. The only limitation on the amount consumed is the ability of the patient to tolerate it. Since burn shock is accompanied by extreme thirst, patients, it is thought, will consume adequate amounts of the salt solution to compensate for fluid loss.

Local Treatment

After threat of shock, if present, is handled, treatment of the burn itself is undertaken. In contrast to treatment a decade ago, modern treatment is simpler and more uniform.

The greatest single change in burn therapy has been the virtual abandonment of the once popular tannic acid coagulation or tanning procedure. This procedure had as its objective the sealing off of the wound by tanning. It is no longer used because it can, as already stated, cause serious liver damage. In addition, the tanning of the wound often results in disfigurement of the skin surface after healing.

The objectives of local therapy have been stated by a number of authorities. One, for example, advocates the following as treatment principles: surgical cleanliness, to prevent infection; compression of the injured area, to prevent fluid loss; and rest, to allow the tissue to heal in the shortest possible time.

A basic tenet in modern burn therapy, according to a recent comprehensive survey of local treatment, appears to be toward minimal drug application and the use of sterile dressings.

Severe initial debridement (surgical removal of devitalized tissue and foreign material) is not general Most physicians advocate removal of gross dirt and bits of fabric only. Others suggest gentle washing with water or a suitable detergent, such as a quarternary ammonium compound or a mild soap solution.

The most widely employed treatment of the burn wound is the so-called "occlusive pressure dressing." This utilizes an impregnated dressing, commonly sterile Vaseline petrolatum gauze, applied as aseptically as possible, followed by moderate-pressure bandages.

According to one authority in the field, the pressure dressing, which may be left in place for long periods of time, is superior to other methods because it prevents circulatory stagnation and fluid loss, rests the injured area, and reduces the risk of secondary infection. In addition, it largely eliminates the need for redressing, with consequent discomfort to the patient and the possibility of disturbing the reforming tissue.

The use of sterile gauze and Vaseline petroleum jelly is the generally accepted local treatment for first-aid. The Department of the Army in its Training Manual, for example, advocates the following procedure in burn cases: "Cover the burned surface with a single layer of dry sterile gauze or bandage or cover the area with sterile petrolatum and a sterile single layer of gauze." The Philadelphia County Medical Society, in a publication on Civil Defense, states: "Ideal treatment is the pressure dressing of a thin layer of Vaseline gauze, a thick layer of surgical waste covered with elastic bandages."

For certain conditions of mass treatment, a dry burn dressing (without the use of an ointment) is advocated by one authority. Primarily developed for use after atomic disaster, this type of dressing can be quickly applied by relatively untrained persons.

In the more recently advocated "open" or "exposure" treatment, no dressings of any sort are applied. The object of this method is to obtain and maintain a dry surface after cleaning, it is not studied neglect, but a highly complicated hospital procedure. Penicillin is administered, full exposure maintained, and the effected parts elevated to minimize irritation.

The "open" method is highly experimental, and the subject of considerable controversy within medical circles. It has been criticized by one authority in the field on the grounds that it makes it difficult to immobilize the burned part properly, is unsatisfactory in drying encircling burns of the limbs or trunk, and gives poor results when used for the burned hand.

Finally, treatment to combat infection, and nutritional therapy are integral parts of modern-day burn therapy.

An extensive bibliography is available on request to the editors of THIS JOURNAL.

"AUXILIARY NURSES" NEEDED

More than a million "auxiliary nurses" must be trained to care for casualties that could result from enemy attack. These auxiliaries include practical nurses, nurse's aides and home nurses, plus trained first-aiders and volunteers with little or no first-aid or nursing training. They would be trained to take over much of the minor nursing routine, freeing graduate nurses for highly skilled work.

A new FCDA publication, "The Nurse in Civil Defense," outlines policies to assist State and local civil defense officials who are responsible for organizing and training personnel for nursing services. Among the training programs described are the nursing aspects of "ABC" (atomic-biological-chemical) warfare, including suggested emergency treatment for victims of the new "nerve gases."

CITIES URGED TO BUILD CIVIL DEFENSE EMERGENCY STOCKPILE

Early in July, FCDA urged that cities and towns should build a stockpile of all emergency supplies necessary for at least the first four hours following enemy attack. It is estimated that it would take at least four hours for State and Federal supply services to come to the aid of a stricken community with the additional food, medical supplies, clothing, fuel, and other materials necessary to relieve suffering and make emergency repairs to property.

Under the Federal Civil Defense Act of 1950, the States and communities have the primary responsibility for civil defense supply. The FCDA provides necessary coordination and guidance, and some financial and material help.

FCDA recommended that first priority on available supplies be assigned to casualty relief activities such as hospitals, first-aid stations and mass-care centers.

DEFERRED STATUS OF FOREIGN STUDENTS

Major General Lewis B. Hershey, Director of Selective Service, said recently that Local Boards have been advised that a high-school, college, or university student in a foreign country may be deferred *if* the evidence submitted is sufficient to convince the Local Board that his work is satisfactory and that his activity in study is "necessary to maintenance of the national health, safety or interest of the United States."

Officials at National Headquarters stressed that the advice does not mean blanket deferment of the students in foreign countries and that they are under the same obligation to keep their Local Boards informed of their student status as are students studying in this country.

FCDA DETAILS BLOOD, BLOOD PLASMA RESERVE NEEDS

Federal Civil Defense Administrator Millard Caldwell has recommended reserves of at least 3,000,000 units of blood plasma or plasma expanders, and equipment for the collection of 3,000,000 units of whole blood as a minimum for the treatment of mass casualties in event of enemy atomic attack.

Estimates of plasma, plasma expanders, and whole blood equipment requirements are based on the assumption that 2,000,000 surviving casualties would require treatment for three weeks. Three thousand units of blood and plasma would be needed for each 1,000 casualties. Of this amount, one-half, or 1,500 units should be whole blood. (A unit is 500 cc.)

The estimates are set forth in a new FCDA booklet "Blood and Blood Derivatives Program," now being distributed to the medical profession and to State and local civil defense casualty services' personnel.

Practically none of the required reserves are presently available. However, FCDA has placed orders for and is stockpiling in strategically safe places—available on short notice to critical target areas and blood procurement centers:

750,000 units of plasma
1,500,000 blood donor sets
1,500,000 blood recipient sets
1,500,000 blood bottles.

In addition, 1,500,000 units of plasma expanders have been ordered to supplement the critically short reserves of plasma. These are commercially manufactured substitutes of temporary value, and do not lessen the need for continued blood donations for the national plasma reserves.

IMPROVEMENT OF SHELTER AREAS IN EXISTING BUILDINGS URGED

Fire, utility, glass, and ceiling hazards in potential air raid shelters can be reduced or eliminated by relatively simple means, the Federal Civil Defense Administration stated recently in issuing a new technical manual, "Improvement of Shelter Areas."

FCDA officials estimate that 15 million people in the nation's target areas could be provided a reasonable measure of protection from enemy atomic attack if such improvements were made.

In one city, Hartford, Connecticut, where 64 blocks were surveyed in the industrial and commercial area, it was found that present structures, if improved in accordance with recommendations in the manual, will provide shelter for an additional 30 per cent of the population in the area.

The manual is Part II of a study, "Shelter from Atomic Attack in Existing Buildings." Part I, "Method for Determining Shelter Needs and Shelter Areas" was distributed to State and regional civil defense directors several months ago. Part II is intended primarily for architects and engineers.

The manual is on sale at the Government Printing Office for 15 cents a copy.

EFFECT OF HEAT STUDIED IN ARIZONA DESERT

Effect of mid-summer heat on Army troops in the open desert, where temperatures sometimes reach 123° F. in the shade, were studied by a group of scientists and observers near the Army's test station at Yuma, Arizona, the Department of the Army has announced. While predominantly a military study, information gained will undoubtedly have civilian application at a later date.

The party tested and studied an experimental uniform designed for use in a dry, hot climate which was developed by the Army Quartermaster Corps from data developed in desert tests conducted last summer. In addition, studies covered human reactions to work load and other stresses under high temperatures.

Except for one two-day leave, testing personnel were not permitted to leave the desert. They had no shelter other than tents. The July-August period was selected for the studies because desert temperatures attain their maximum at that time, on occasion reaching a high of 123° F. in the shade and exceeding 150° F in the sun. Average daily maximum temperatures range from 106° to 116° in the shade.

One of the studies dealt with the water requirements of men living in desert conditions. Another study sought to define the difference in heat stress imposed on man between in-shade activity and in-sun activity. Reactions of the men in reference to the amount of fat on the body and loss or gain in over-all weight, in connection with temperature and activity were also subjects of the tests.

Physiological reactions of men to varying heat stresses imposed during rest, moderately active, and very active periods, in part, were measured by means of thermocouples attached to the men and giving indication of skin surface temperature changes.

FROM THE SECRETARY'S DIARY FOR JULY

1st Today the Council in session at the Statler Hotel here in Washington. Most of the morning given over to reports of committees and especially the Finance Committee. Chairman Dunning reviewed the ASSOCIATION'S financial condition with meticulous care. The budget was reported in balance and most of the discussion dealt with the ASSOCIATION'S financial requirements to meet the increasing demands for services and the rising costs of materials, maintenance and manpower. Increasing the dues and developments of more substantial maintenance funds were among the ways and means suggested. In the afternoon approving policies for various Centennial Celebration functions and the general program for the Convention.

2nd Now off to Fredericksburg in Virginia for the annual meeting of the Friends of Historical Pharmacy. This is an organization fostered by the A. PH. A. to maintain certain historic shrines of which the Hugh Mercer Apothecary Shop is the principal example.

In this quaint shop of early Colonial Days where Dr. Hugh Mercer frequently entertained General George Washington, we have some fine examples of glassware and utensils of an earlier day. The charming hostess of the shop, Mrs. J. M. Hamner, not only tells the story of General Mercer but frequently obtains from her visitors additional lore about the man who operated the shop and whose descendants are scattered far and wide in these United States. The Directors of the Friends of Historical Pharmacy transacted the annual business and laid plans for further development of the shop.

3rd All this day working on the JOURNAL and amassing the Convention material and ordering the printing for the various functions.

4th Now working on the various Convention reports and receiving much telephoned instruction from related organizations regarding their programs which must all be coordinated both as to room assignments and personnel involved.

5th The Fair Trade Legislation hanging in the balance and now entirely up to the stroke of the pen wielded by President Truman. No doubt his decision will be influenced considerably by messages from pharmacists and others. In addition to stating the A. PH. A. interests, our letter to the President on this subject called attention to the possible unfavorable effects of predatory price cutting on professional services.

7th Now actively engaged in the details of the ceremonial session which will constitute an important factor in the Centennial Convention Celebration. Also following up the various committees whose job it is to review and report on the many projects in which the A. PH. A. is interested and which the House of Delegates discusses at the annual conventions.

8th Today a visit from Treasurer and Mrs. Hugo H. Schaefer, who are on their way back to New York after a brief vacation in Luray, Va.

10th Although the political conventions are tempting as far as radio and television are concerned there is little time for such diversions as we read proof on historical documents and programs for the convention. An occasional glimpse at the television makes one feel that it is just as well not to publicize all the details of convention activity.

11th Now busy with the Public Relations Counsel on photographic and other graphic presentations of A. PH. A. history. The correspondence from all parts of the world and the friendly and cordial tone of communications from near and far augur well for a pleasing Centennial Celebration.

15th From this day on there is little but Convention preparation to relate. The weather makes us feel very grateful for office comfort provided by the air conditioning installed earlier. The cooperation of Convention committees in Philadelphia and the members of our Headquarters Staff has been very heartening with so many details still to be completed. Frequent visits to the Bellevue-Stratford Hotel indicate that even with the anticipated difficulty of having a large convention at the same hotel immediately preceding our own, the meeting facilities will be comfortable and sufficient after the first day. For the first time in many years it will be necessary to hold the annual banquet outside the Headquarters hotel. But even here the preparations that have been made by the Philadelphia committee appear to be complete in every respect. Those attending the convention will undoubtedly experience a most pleasant occasion and for this much thanks will be due Chairman Hugh C. Muldoon of the General Centennial Celebration and Chairman Paul W. Wilcox of the Philadelphia Convention Committee and their very capable associates.

NEW...to prevent attacks in angina pectoris

Clinical evidence establishes that Peritrate can substantially reduce the number of attacks in angina pectoris or greatly lessen their severity.

Peritrate's clinical superiority for prophylaxis in angina pectoris is related to nitroglycerin but, unlike nitroglycerin, Peritrate is slowly absorbed and long-lasting. Two factors contribute to making Peritrate a profitable item for you:

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2. Peritrate is backed by a full-scale promotion campaign including detailing, direct mail and full-page advertisements in medical journals.

Dosage: 1 tablet, 3 to 4 times daily.
Available in 10 mg. tablets on Rx only.

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100's	$ 2.50 each	$ 3.75
500's	10.00 each	15.00

Peritrate®

Tetranitrate

(brand of pentaerythritol tetranitrate)

CHILCOTT *Laboratories, Inc.* MORRIS PLAINS, NEW JERSEY

FORMERLY THE MALTINE COMPANY

Glossary of Professional Terms ..... *from page 561*

NOT RECOMMENDED

(See italicized words under "Recommended")

PERSONNEL

Apothecary: Term dying out in this country as in England and France. *Pharmacist* preferred to standardize professional designation and avoid confusion of laity.

Apprentice and Apprenticeship: Carry-over terms from former trade-apprentice status, which may be used in connection with the supervised professional experience legally required. *Pharmacy intern* and *internship* are preferred standard usage in a hospital pharmacy; usage may be extended to public pharmacies.

Chemist: Title by itself has, in no country, been considered equivalent of *pharmacist*. Misleading to U. S. public.

Clerk, or Registered Clerk: Fails to give proper professional recognition and status when applied to licensed employee-pharmacists. Better: *pharmacist; associate; staff member.*

Detail Man: Characterless and of uncertain meaning to the uninitiated. More expressive: *medical service representative, manufacturer's representative;* also (for licensed personnel) *medical service pharmacist* or *medical advisory pharmacist.*

Doctor: Usage by pharmacists not holding a doctorate may be considered, by educated persons outside of pharmacy, a mark of sham and lack of professional discrimination.

Ethical Druggist, Ethical Pharmacist, or Professional Pharmacist: Inference possible that other practitioners are unprofessional or unethical—in the dictionary sense—which is usually not the case even when other establishments are not devoted exclusively to pharmaceutical service. Standard professional title of *pharmacist*, coupled with professional service, is sufficiently distinguishing

Prescription Pharmacist: May be used by those exclusively in prescription practice, but any *practicing pharmacist* is a prescription pharmacist. This arbitrary distinction (like *ethical pharmacist*) has indiscriminate usage. Preferable title: *pharmacist.*

Retailer: Fails to emphasize pharmacist's professional role distinct from ordinary merchant or retailer.

Retail Pharmacist: "Retail" ordinarily superfluous and undesirable when trying to avoid commercial connotations. Substitute *pharmacist* except where differentiation must be made from *hospital* or *manufacturing pharmacist.*

SERVICES

Advertising by Practicing Pharmacists: Many hackneyed phrases have undesirable implications and are not likely to impress the public, except to raise questions concerning the quality of pharmaceutical service offered by other pharmacists or by the advertiser himself. Typical phrases in this category are:

Cut rate;
No substitutions may be made;
Blank's buy the purest drugs from ethical firms only;
Blank's drugstore fills your prescription exactly as written;
Blank's pharmacists never take a chance;
Only pure drugs are used in our prescriptions;
We give you what the doctor orders;
Only registered pharmacists fill your prescriptions in this store.

Merchandising: Means literally "to trade or traffic in," and should not refer to prescription practice or to pharmaceutical service in the health-products field. (Has accepted usage in restricted sense of promoting products not related to pharmacy.) Use *promoting* or *developing* prescription practice or pharmaceutical service.

Trade, Drug Game, Drug Business: Terms that impress the concept that pharmacy is only a business. Preferable: *pharmacy; pharmaceutical profession; prescription practice; practice of pharmacy.*

PHYSICAL PLANT AND PRODUCTS

Drug (in the sense of implying "narcotic"): Waning but still current usage in lay publications. Often misleading (e. g., "drug addict") to those who read-and-run. Pharmacists should lodge objections with editors concerning instances of this or other confusing misuse of terms.

Drug Room or Drug Shop: In a hospital, the preferred terms are *the pharmacy* or (especially in larger institutions) the *pharmacy dispensary* and *pharmacy laboratory.*

Ethical Drugstore: May imply to uninitiated laymen that "ethical" practice of pharmacy, in the dictionary sense, is unusual or that other pharmacies are unethical. (In the public mind "ethical" rightly has nothing to do with the amount of, or specialization in, professional service.) Preferable: *pharmacy.*

Ethicals or Ethical Proprietaries: Preferable: *prescription specialties* (or *prescription drugs* in a broader sense that includes nontrade-named products.)

Merchandise: Fails to supply professional impression when publicly referring to professional products. Preferred terms: drugs, health supplies, medications, stock, or products.

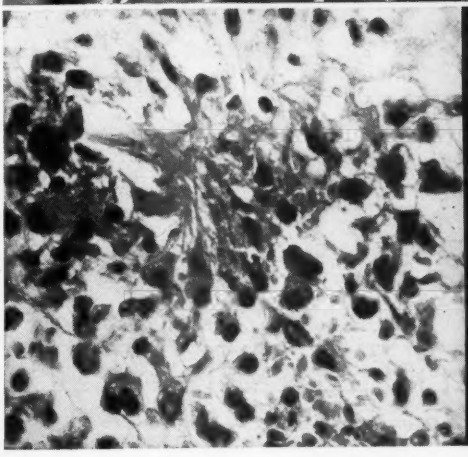
Patent Medicines: Term now taboo in industry, and also undesirable for practicing pharmacist. Self-medication products of little value or promoted illegitimately may be referred to as nostrums. The broader legitimate class of products may be called *household medicines, household remedies,* or *packaged medicines. Proprietary* is an equivalent and had best be restricted to products of the "proprietary industry" (i. e., household medicines).

Store: Fails to set apart pharmacist's establishment from that of ordinary merchant. *Pharmacy* or *drugstore* preferable. (*Drugstore* now may have public connotation of a more general type of establishment, as contrasted with one where professional services predominate.)

response in rheumatic fever

q. Does cortisone influence the heart lesions of rheumatic fever?

a. Early cortisone administration suppresses and in some cases may even prevent serious cardiac damage.



q. What effect does cortisone have on acute rheumatic fever?

a. Often within 24 hours after cortisone therapy, the severely ill, toxic patient appears alert and comfortable; and within one to four days, temperature drops to normal, appetite increases, and polyarthritis subsides.

Cortisone | Upjohn

available as Compressed Tablets Cortisone Acetate, 25 mg., for oral use. Bottles of 20 tablets.

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

Suburban Drugstore

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fountain occurred in 1947 and amounted to 2350 prescriptions.

Another interesting fact revealed in Table I is that prior to the removal of the soda fountain, no more than 238 prescriptions were filled in any one month. Yet, in December, 1945, the year following the removal of the fountain, 447 prescriptions were filled in Store "X." This represented an increase of approximately fifty-eight per cent in prescription volume.

The prescription increase shown by Store "X" was not paralleled by Store "Y" (Table II). The number of prescriptions filled each year in Store "Y" shows a decrease in 1943 and 1944, an increase in 1945 continuing through 1947. In 1948 there was a decrease, followed in 1949 and 1950 by an increase. In 1950 the total number of prescriptions filled in Store "Y" totaled 4633 prescriptions, or approximately 2.5 times more than the 1863 filled in 1942.

Store "Z" is comparable to neither Store "X" nor to Store "Y" in respect to its tendency to increase or decrease in the number of prescriptions filled each year. The number of prescriptions filled each year in Store "Z" reveals (Table III) first, a period of decrease in 1943, and again in 1944; and secondly, an increase starting in 1945 and continuing through 1950.

This store filled 809 prescriptions in 1950, approximately 5.5 times as many as the 144 prescriptions filled in 1942.

In 1942 Store "X" and Store "Y" filled 1876 and 1863 prescriptions respectively. In 1950 Store "X" filled 12,629 prescriptions and Store "Y" filled 4634 prescriptions.

The first four years of this study reveals that Store "X" and Store "Y" enjoyed related success in respect to the number of prescriptions filled by each. Following this related success Store "X" pulled away in respect to an increase in the number of prescriptions filled as compared with

(Continued on page 574)

TABLE II.—PRESCRIPTION COUNT FOR STORE "Y"

(New and Narcotic)

Year →	1942	1943	1944	1945	1946	1947	1948	1949	1950
Jan.	141	193	163	180	288	289	325	326	450
Feb.	156	160	118	158	233	281	281	316	415
Mar.	151	139	136	174	222	357	262	331	506
Apr.	136	155	171	176	245	316	295	305	510
May	116	137	174	189	278	285	255	269	316
June	121	134	149	154	247	283	294	289	424
July	152	125	142	176	219	234	232	282	306
Aug.	212	138	134	246	284	294	267	337	507
Sept.	164	137	124	211	263	309	241	286	263
Oct.	211	146	125	217	253	280	307	320	330
Nov.	158	145	174	234	273	299	274	316	304
Dec.	145	173	162	251	276	324	321	316	303
Total	1863	1782	1772	2366	3081	3551	3354	3693	4634

TABLE III.—PRESCRIPTION COUNT FOR STORE "Z"

(New and Narcotic)

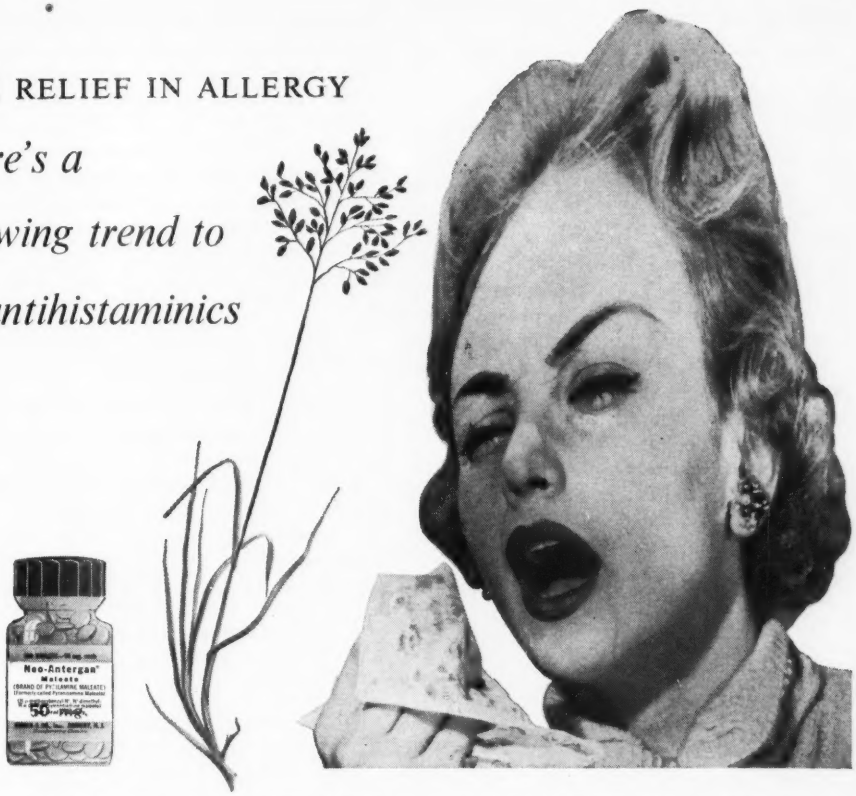
Year →	1942	1943	1944	1945	1946	1947	1948	1949	1950
Jan.	16	5	3	8	16	25	48	60	64
Feb.	19	8	6	9	20	25	40	54	85
Mar.	20	20	8	8	20	34	52	63	81
Apr.	15	9	11	6	15	24	53	49	64
May	17	7	10	9	12	33	47	68	73
June	14	6	7	10	22	59	48	53	64
July	9	8	7	9	23	29	58	43	57
Aug.	15	5	5	2	18	32	61	60	57
Sept.	3	6	8	4	19	53	50	70	73
Oct.	8	15	4	11	19	49	59	70	65
Nov.	4	8	11	8	28	48	43	50	57
Dec.	4	10	6	14	28	57	49	49	69
Total	144	107	86	98	240	468	608	689	809

FOR RELIEF IN ALLERGY

there's a

growing trend to

℞ *antihistaminics*



Alert pharmacists welcome trends that represent a path to increased Rx volume. Recent surveys indicate a decided trend to ethical antihistaminics.

NEO-ANTERGAN—the physician's product—enjoys exceptional professional acceptance because doctors know this time-tried, safe antihistaminic affords outstanding relief in seasonal allergies.

Backed by powerful ethical promotion the year 'round, NEO-ANTERGAN receives added support during the hay fever season. Seasonal demand plus a decided trend are two good reasons for checking your stocks of NEO-ANTERGAN now.

Supplied: Coated tablets of 25 and 50 mg., in bottles of 100, 500, and 1,000.

Neo-Antergan®

MALEATE
(PYRILAMINE MALEATE)

COUNCIL ACCEPTED

Research and Production for the Nation's Health

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

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Suburban Drugstore

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the number of prescriptions filled in Store "Y." This increase in Store "X" became more pronounced after the removal of the soda fountain.

In Store "Y" a continuous increase in the number of prescriptions filled is noted until 1948. A slight drop in the number of prescriptions filled was noted for 1948 with an upturn again in 1949. The gradual increase in Store "Y" was probably due to the prescription writing habits of this area as well as other factors.

Noteworthy is the fact that at no time after 1946 has the prescription business of these stores declined to a level below that prior to 1946.

There is little doubt that the elimination of the soda fountain from Store "X" in 1944 had its effect on the prescription increase. The removal of the fountain eliminated people loitering about, especially those persons who exploit the store as a general meeting place.

The elimination of loiterers has a salient effect upon customers who purchase medical supplies, the nature of which are highly personal. Without a fountain the pharmacist can spend the time usually devoted to numerous fountain details to more professional activities. It makes it possible for the pharmacist to keep abreast of newer drugs, preparations and trends in medical practice. In so doing, he is better informed and thereby able to render better professional services to the physician and the public.

The customer count for Store "X" in 1942 totaled 79,380; in 1943 this count increased to 92,038 (Table IV). In 1944, the year the fountain was removed, the customer count declined to 85,009 and it was five years later in 1949 before the count again reached 85,000.

In Store "Z" the customer count averaged approximately one-half million for each year of the period 1942–1950 (Table V).

Following the decrease in customer count in Store "X" in 1944, it is significant to note that the number of prescriptions filled each year increased. Although the customer count did not further decrease, it at no time approached the

(Continued on page 576)

TABLE IV.—CUSTOMER COUNT FOR STORE "X"

Year →	1942	1943	1944	1945	1946	1947	1948	1949	1950
Jan.	6,122	5,935	6,963	5,143	6,065	6,293	6,328	6,840	7,122
Feb.	6,045	5,908	6,720	4,927	6,035	6,055	6,479	6,832	7,282
Mar.	6,680	6,921	7,481	6,082	6,822	7,204	6,856	7,356	7,879
Apr.	6,666	7,873	8,008	5,919	6,621	6,529	6,500	6,910	7,569
May	6,269	8,929	8,257	5,717	6,249	6,665	6,585	7,110	7,774
June	6,478	8,827	8,454	5,574	6,340	6,357	6,305	6,517	7,012
July	6,996	8,504	8,392	6,126	6,723	6,224	6,602	7,082	6,999
Aug.	7,191	8,995	7,403*	5,846	6,952	6,692	6,705	7,545	7,251
Sept.	7,940	7,910	6,231	6,057	6,908	6,676	7,028	7,320	7,967
Oct.	6,741	7,726	6,266	6,248	6,627	7,068	7,451	7,547	8,012
Nov.	6,228	6,761	5,622	5,723	6,279	6,271	6,808	6,910	7,168
Dec.	6,024	7,749	5,212	6,797	7,067	7,180	7,364	7,569	7,780
Total	79,380	92,038	85,009	70,159	78,688	79,214	81,011	85,538	89,815

* Soda fountain removed.

TABLE V.—CUSTOMER COUNT FOR STORE "Z"

Year →	1942*	1943	1944	1945	1946	1947	1948	1949	1950
Jan.	41,235	42,929	40,124	37,820	37,720	40,633*	40,967	39,724	38,053
Feb.	41,338	42,000*	41,567	37,192	37,000*	41,866*	40,967	39,283	37,451
Mar.	40,986	41,824	41,542	47,040	40,500*	42,424*	47,360	42,743	38,671
Apr.	41,683	42,369	43,364	42,178	42,400*	41,312*	42,200	43,420	40,905
May	46,282	48,828	41,103	48,805	44,800*	40,992*	42,858	41,662	38,540
June	47,365	49,145	39,476	47,151	39,511	40,127*	41,196	38,488	36,697
July	46,257	48,853	40,493	48,471	47,644	43,834*	43,616	42,154	36,537
Aug.	46,718	48,392	44,599	47,469	43,354	44,503	40,686	42,101	37,519
Sept.	45,639	47,500*	51,864	42,135	42,000*	41,635	44,129	39,931	41,019
Oct.	45,023	46,000*	44,432	41,990	42,000*	41,201	48,533	43,016	42,901
Nov.	44,204	43,806	38,503	40,639	40,000*	34,570	45,573	43,123	36,115
Dec.	47,983	49,216	45,940	49,791	49,800*	49,780	52,204	51,574	48,178
Total	534,713	550,862	513,007	530,681	506,729	502,877	530,289	507,219	472,586

* Estimated.

First Lieutenant Carl H. Dodd Medal of Honor

"USE MARCHING FIRE—and *follow me!*" Shouting this command, Lieutenant Carl Dodd struck out in advance of his platoon to lead the assault on Hill 256, near Subuk, Korea. During the fierce in-fighting that followed, he constantly inspired his men by his personal disregard of death. Once, alone, he wiped out a machine gun nest; another time, a mortar. After two furious days, Dodd's outnumbered, but spirited, force had won the vital hill.

"You were helping, too," says Lieutenant Dodd. "You and the millions of other citizens who have bought Defense Bonds. For your Bonds, *which keep America strong*, were behind the productive power that gave us the weapons we used.

"I hope you'll go on buying Bonds—always. Because your Bonds—and our bayonets—make an unbeatable combination for keeping safe the land that we all love!"

★ ★ ★

Now E Bonds earn more! 1) All Series E Bonds bought after May 1, 1952 average 3% interest, compounded semiannually! Interest now starts after 6 months and is higher in the early years. 2) *All maturing E Bonds* automatically go on earning *after maturity*—and at the new higher interest! Today, start investing in better-paying Series E Bonds through the Payroll Savings Plan where you work! Or inquire at any Federal Reserve Bank or Branch about the Treasury's brand-new Bonds, Series H, J, and K.

Peace is for the strong! For peace and prosperity save with U.S. Defense Bonds!

The U.S. Government does not pay for this advertisement. It is donated by this publication in cooperation with the Advertising Council and the Magazine Publishers of America.

Suburban Drugstore

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customer count recorded prior to the removal of the soda fountain.

The situation in Store "Z" provides a much different picture. Most revealing is the fact that in 1949 and 1950 the decrease experienced in customer count is the greatest for the entire period of this study. Yet during this period of decline this store filled its greatest number of prescriptions.

As revealed by a limited survey of public opinion, professional service is conducive to store selection. Confidence in the pharmacist rather than convenience of location seems to be a very important factor. The removal of the soda fountain in Store "X" seems indicative of this factor.

The medical service representatives of pharmaceutical firms are of the opinion that more detailing of the physician with less emphasis on selling has been a vital factor in the over-all increase of prescription writing in this area. This does not, however, explain why one store in a community not strategically located enjoyed so marked an increase in new prescriptions.

Information obtained through survey of a number of general practitioners indicates an increase in prescription writing in this area. This increase in prescription writing seems to be stimulated for a variety of reasons.

The mere fact that there is greater prescription writing on the part of the physician does not assure each pharmacy in the community an increased prescription volume. This fact is well demonstrated by this study.

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Exchange

PECTIN N.F.

(PURIFIED POLYGALACTURONIC ACID METHYL ESTER)

FOR MEDICINAL AND PHARMACEUTICAL USES

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Made from Our Own California Citrus Fruits

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Also regularly supplied to pharmaceutical firms:

Sodium Calcium Galacturonate
Hesperidin Methyl Chalcone
Lemon Peel Infusion, dried
Pectin N. F. with dextrose
Citrus Bioflavonoids
Sodium Polypectate
Pectin Albedo
Pectin, L. M.
Pectic Acid
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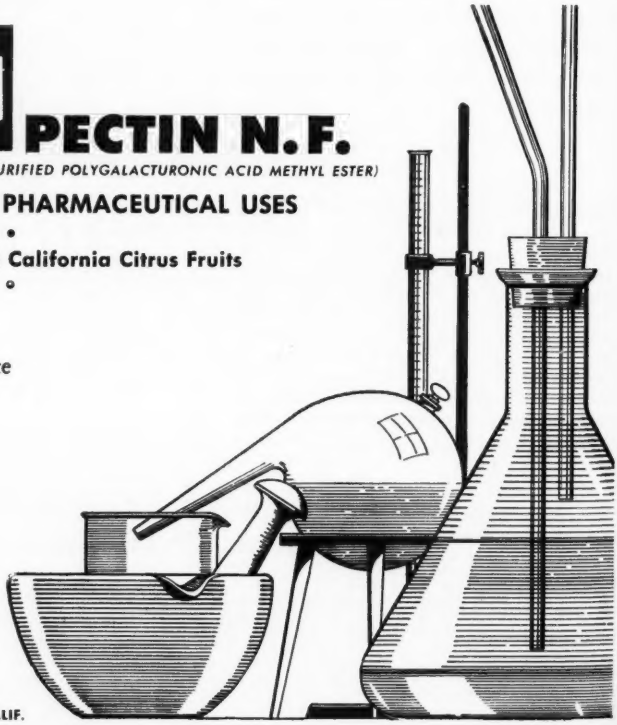
SUNKIST GROWERS
PRODUCTS DEPARTMENT • ONTARIO, CALIF.



new convenient

ANDROGEN THERAPY

for women

ORETON-M Buccal Tablets containing methyltestosterone dissolved in POLYHYDROL,® a unique solid solvent, provide a more effective and convenient form of male sex hormone. The buccal route permits methyltestosterone to reach the circulation directly. Indicated for definitive relief of menopausal symptoms in special circumstances; for preventing pain of functional dysmenorrhea; and to relieve discomfort of breast engorgement.

Freedom from masculinizing side effects can be expected with recommended dosage of one-half to one and one-half 10 mg. ORETON-M® (Methyltestosterone U.S.P.) Buccal Tablets daily (5-15 mg.).

ORETON-M

buccal tablets

Schering CORPORATION · BLOOMFIELD, NEW JERSEY

ORETON-M Buccal Tablets

Hydrophilic Suspension Vehicle

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by addition of 0.12% v/v of Tween 20 to the buffered vehicle.

The suspensions prepared with the buffered vehicles usually separate to a greater extent than when the unbuffered vehicle is used, but the separated solids are easily resuspended in practically all the tested products.

Discussion

Many dermatologic medicinal agents are antiseptic and their products require no additional preservative. Nevertheless the inclusion of a mixture of 0.025% of methyl paraben and 0.01% of propyl paraben, or preferably, of about 0.1% of phenol in dermatologic products is an added precaution against mold or bacterial growth. This small amount of phenol imparts no noticeable odor to the dermatologic product and does not introduce many incompatibility problems.

The opalescence produced in the CMC-M dispersion by the 0.065% of Aerosol OT is caused by the small amount of the wetting agent that is not in solution. When an insoluble powder is admixed with the freshly prepared vehicle, the undissolved Aerosol OT is adsorbed by the powder and the product is not altered on standing. If the vehicle is allowed to stand for some days, the undissolved Aerosol OT causes the formation of thread and floc precipitates, the dispersion loses its smoothness and its viscosity is generally increased. The addition of resorcinol or Tween 20 clarifies the dispersion and stabilizes it. Less of the tween is required, and other considerations make it the preferable ingredient. The unbuffered vehicle (S1) requires only 0.03% v/v of Tween 20, while the buffered vehicle (SH) requires 0.12% v/v of Tween 20 for clarification.

The presence of 0.03% of Tween 20 does not interfere with the preparation of clear dispersions of resorcinol up to 5% concentration. The extemporaneous vehicle (E1) will yield clear products with 5% or more of resorcinol. The addition of 2% of phenol causes an opalescence when the stock vehicle is used, while the opalescence of the extemporaneous vehicle is not altered by the addition of phenol.

The buffered stock vehicle (SH) can be used for the suspension of many dermatologic agents. However, when gentian violet, 1:5000, is added to a zinc oxide suspension in this vehicle, only a small part is adsorbed on the powder, while the aqueous phase retains the remainder of the gentian violet in solution. When the extemporaneous buffered vehicle (EH) is used, practically all the gentian violet is adsorbed by the suspended zinc oxide, the aqueous phase being almost colorless.

All the products prepared with the CMC-M suspending agent form films containing the medicinal agent. When the products are spread on dermal surfaces, they dry in three to five minutes. The sensations experienced during the drying period depend upon the individual's concentration on the applied medicinal, his or her dermal responsiveness, and upon the ingredients and the thickness of the application. Glycerin or alcohol counteract any drawing during film formation unless the material is applied too liberally. Alcohol, menthol, and camphor increase the cooling sensation. The dried films are hydrophilic and can be removed by gentle washing with water. The washing does not remove the medicinal agents that have been absorbed or adsorbed from the films.

Incompatibilities

Sodium carboxymethylcellulose suspending vehicles should not be used with soluble aluminum, iron or lead salts, which react with the suspending agent. Bismuth subnitrate causes the suspension vehicle to gelatinize; while bismuth subcarbonate and bismuth subgallate form excellent and stable suspensions. Salicylic and benzoic acids in concentrations greater than 5% cause the products to thicken and pour with difficulty. When other substances are added, this tendency is reduced.

It is not suggested that the CMC-base vehicles will solve the problems of compounding for all dermatologic preparations. Nor will a universal vehicle be offered in the near future. These vehicles afford one of the different types of dispersion bases that could be used as stock vehicles for dermatologic preparations. The special usefulness of these vehicles is for the suspension of fine, bulky powders of insoluble dermatologic agents; for some water-soluble medicinals intended for topical application; and for materials that can be suspended with the aid of a fine, bulky powder. Some of these suspensions are remarkably free from appreciable settling, but in all cases, except where a water-clear product is obtained, a "shake-well" label should be placed on the container.

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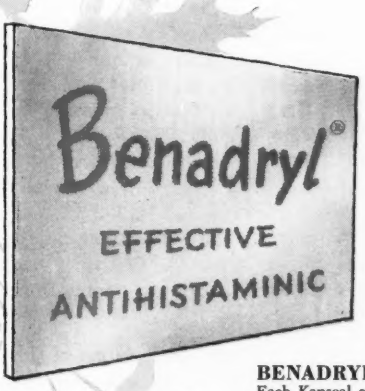

sign of the season

in peak demand for

hay fever

BENADRYL Hydrochloride Kapseals®
Each Kapseal contains 50 mg. BENADRYL hydrochloride (diphenhydramine hydrochloride, Parke-Davis). Supplied in bottles of 100 and 1000.

BENADRYL Hydrochloride Capsules
Each capsule contains 25 mg. BENADRYL hydrochloride. Supplied in bottles of 100 and 1000.

BENADRYL Hydrochloride Elixir
Each teaspoonful (4 cc.) contains 10 mg. BENADRYL hydrochloride. Supplied in 16-ounce and 1-gallon bottles.

BENADRYL Hydrochloride Steri-Vials®
Sterile solution for parenteral use containing 10 mg. BENADRYL hydrochloride in each cc. of solution. Supplied in 10-cc. Steri-Vials.

BENADRYL Hydrochloride Emplets®
Each Emplet contains 50 mg. BENADRYL hydrochloride. Supplied in bottles of 100 and 1000.

BENADRYL Hydrochloride Cream
Contains 2% BENADRYL hydrochloride in a water-miscible base. Supplied in 1-ounce and 2-ounce collapsible tubes.

Kapseals BENADRYL Hydrochloride with Ephedrine Sulfate
Each Kapseal contains 50 mg. BENADRYL hydrochloride and 10 mg. ephedrine sulfate. Supplied in bottles of 100 and 1000.

BENADRYL's clinical performance in the treatment of hay fever and other allergies has assured its position with physicians—and as the pollen count rises each year, the volume of BENADRYL prescriptions rises with it.

MEDICAMENTA VERA

Parke, Davis & Company

STUDENT BRANCHES

Newly elected officers of the Student Branches who will assume their duties at the beginning of the fall college term are as follows:

University of California: Theodore Purcell, president; Julian Williams, vice-president; and Greta Gorlin, secretary-treasurer.

Columbia University: Herbert J. Kazdin, president; Andrew Pinka, vice-president; Albert Hendrickson, secretary; and Donald Levine, treasurer.

Duquesne University: William S. Knapic, president; Paul A. Whalen, vice-president; and Florine DeMaria, secretary-treasurer.

University of Georgia: Lowell Kepp, president; Thomas Bryan, vice-president; Frances Grice, recording secretary; Gwen Taylor, corresponding secretary; and John Twomey, treasurer.

State University of Iowa: David R. Chambers, president; James H. Shutt, vice-president; Margery A. Rink, secretary; and Holger A. Christensen, treasurer.

Montana State University: Emery Brunett, president; Robert Carkeek, vice-president; Dorina Pufescu, secretary; and William E. Cole, Jr., treasurer.

New England College of Pharmacy: Albert P. Cataldo, president; Paul Finn, 1st vice-president; Robert Peno, 2nd vice-president; Carl Walker, 3rd vice-president; Norma Pollano, secretary; and Leon Goldstein, treasurer.

University of New Mexico: Joseph McMahon, president; Olan B. Dansby, vice-president; Minnette Hall, secretary; and Dr. James E. MacDavid, treasurer.

Rutgers University: Albert Mitrotz, president; Bennet Wohl, vice-president; Esther Fusaro, secretary; and Richard Peckman, treasurer.

University of Southern California: Kenneth D. Miller, president; Carl D'Auria, vice-president; Ania June Chong, secretary; and Sheldon Kroop, treasurer.

Southwestern State College: Robert J. Reynolds, president; Guy Jackson, vice-president; Lou Rae Huckaba, secretary; and John Little, treasurer.

State College of Washington: Denzil L. Bartels, president; Arthur W. Meyers, vice-president; Catherine F. Huse, secretary; and Dr. Charles F. Martin, treasurer.

West Virginia University: Bernard V. Franko, president; Robert J. Watz, vice-president; and Sara A. Haverstraw, secretary-treasurer.

University of Wyoming: Elroy Wirtz, president; Sherry Martin, vice-president; Joann Straw, secretary; and Dorothy Crowder, treasurer.

Don E. Francke, president of the AMERICAN PHARMACEUTICAL ASSOCIATION, addressed members of the **Howard College Branch,** Birmingham, at the June 16 meeting.

LOCAL BRANCHES

A record number of Michigan pharmacists attended the 10th annual Spring Conference of the **Michigan Academy of Pharmacy** held in Detroit, April 30. Three outstanding scientific talks were featured at the afternoon session, with Dr. M. L. Tainter, director of Sterling Winthrop Research Institute, appearing as guest speaker in the evening. Dr Tainter spoke on "The Golden Age of Medicine." As in the past, the evening session was dedicated to a former outstanding Michigan pharmacist. This year, Mr. Ottmar Eberback (1845–1921), pioneer pharmacist, inventor and manufacturer of scientific instruments, was honored. The Michigan Academy of Pharmacy, sponsored by the **Michigan Branch,** was organized and incorporated in 1942.

On May 27, Dr. Henry J. Welch, Director of the Antibiotics Division of the Food and Drug Administration addressed the members of the **Michigan Branch** in Detroit. Dr. Welch reviewed the growth, development and present magnitude of the antibiotic field.

The following officers were elected at the April 1 meeting of the **Western New York Branch:** Robert K. Ritter, president; John W. Kleber, 1st vice-president; Andrew Scoma, 2nd vice-president; Rose Marie Lee, secretary; and William Burckart, treasurer.

Rx Calcicaps XXIV
SIG. 9 have just seen this announcement in a leading medical journal. Can you stock this item for my prescriptions?

Pregnancy is always in season

When the need for CALCIUM is increased
Here is your choice of CALCIUM THERAPY

CALCICAPS

PATIENT ACCEPTANCE because the small capsule-shaped sugar coated tablets are easy to swallow and well tolerated.

Bottles of 100 and 500

CALCIWAFERS

PATIENT ACCEPTANCE because the cinnamon flavored, non-gritty wafers are palatable and well tolerated.

Boxes of 50 and 250

CALCICAPS WITH IRON

PATIENT ACCEPTANCE because the formula includes ferrous gluconate, the iron salt of choice for less gastro-intestinal disturbance.

Bottles of 100 and 500

NION

A MARK OF MERIT

NION CORPORATION · Los Angeles 38, California

BRIEFLY NOTED

ASSOCIATIONS

The 71st annual convention of the **Massachusetts Pharmaceutical Association** was held on June 15, 16 and 17 at Swampscott, Mass. The opening business session was at 10:30 a.m., June 16, with an address of welcome by Howard C. Newton, Dean, Massachusetts College of Pharmacy. Among the important subjects discussed at this convention were: 1952 Legislation, Fair Trade, and Durham-Humphrey Prescription Regulations.

Richard M. Bitner, Lansdale pharmacist, was elected president of the **Pennsylvania Pharmaceutical Association** at the closing session of the group's 75th Diamond Jubilee Meeting at Galen Hall, Pa., on June 18. A few of his many memberships include the Lansdale Borough Council, secretary of the Montgomery County Pharmaceutical Association, member of the AMERICAN PHARMACEUTICAL ASSOCIATION and the National Association of Retail Druggists. Mr. Bitner holds the *American Druggist* "Neighborhood Statesman" citation awarded him in 1950.

The 63rd annual convention of the **Oregon State Pharmaceutical Association** held on June 30 and July 1, in Gearhart, honored veteran druggists of the State. Concurrent meetings were conducted by the Portland Retail Druggists Association, Oregon Drug Travelers, Ladies' Auxiliary, Oregon Veteran Druggists' Association, and Kappa Psi.

Results of elections conducted recently at the 70th annual meeting of the **Maryland State Pharmaceutical Association** held in Ocean City are: Manuel B. Wagner, Baltimore, president; Otto W. Muehlhause, first vice-president; Lester R. Martin, second vice-president; Hyman Davidov, third vice-president; John F. Wannenwetsch, treasurer; Melville Strasburger, acting executive secretary; and Embray E. Adams, honorary president.

Approximately 400 members of the **South Carolina State Pharmaceutical Association** heard Dr. W. Paul Briggs, secretary and manager of the American Foundation for Pharmaceutical Education, address a banquet meeting of the 76th annual convention held on June 8, 9, 10 and 11, in Myrtle Beach. Another feature of the convention was an All-American seminar conducted by Bert Mull of Eli Lilly & Co.; Dr. R. L. Swain, editor, *Drug Topics;* Dr. Paul C. Olsen, economics editor of *Drug Topics;* H. W. Adkins, manager of Yahr-Lange; and others.

B. R. Ward, Goldboro, was installed as president of the **North Carolina State Pharmaceutical Association,** at the closing session of the group's 72nd annual convention held recently in Pinehurst. Other new officers are: W. A. Ward, Swannanoa, first vice-president; W. L. West, Roseboro, second vice-president; Henry E. Dillon, Elkin, third vice-president; and W. J. Smith, Chapel Hill, who was re-elected secretary-treasurer.

The 23rd annual convention of the **New Mexico State Pharmaceutical Association** was held on June 3, 4 and 5 in Albuerque. R. D. Sasser was elected president, with Robert Jackson, Carlsbad, as first vice-president, and Sam Douglas, Portales, as second vice-president. Among the speakers were: New Mexico's Governor Edwin Mechem; Benjamin A. Smith of Eli Lilly & Co.; George Arnold, association retiring president; Peter Duran, president of the State Pharmacy Board; Peter Weaver, executive secretary of the Oklahoma Pharmaceutical Association; and Henry H. Henley, of McKesson and Robbins, Inc.

Formal convention activities of the 46th annual meeting of the **California State Pharmaceutical Association** opened on Monday, June 9, in San José, with the Rev. John J. Healey officiating. John J. Creighton, general convention chairman, conducted the business sessions, with Glenn Edick as local chairman of the opening ceremonies. Business and entertainment sessions continued through June 10 and 11.

(Continued on page 585)

AUGUST 1952

Pfizer antibiotics reporter

Prepared for the [illegible] Pharmacist

THE BIG T TAKES AN A: Pure crystalline Terramycin, in its amphoteric form, proved "exceptionally well suited to intestinal sterilization."* Gratifying results achieved in nine patients given daily oral doses of 0.75 to 1 Gm. Terramycin for four days preceding colon surgery. Amphoteric Terramycin provided in easy-to-take, sugar coated TABLETS, the big T for turnover. Available in 50 mg., 100 mg. and 250 mg. sizes.

*Andina, F., and Allemann, O.: Schweiz. med. Wchnschr. (March 8) 1952.

DUO CONTROL: Combined penicillin-streptomycin therapy proved itself "excellent" and "astonishing" in cases of both acute and chronic otitis media. Intramuscular injections of the combined preparation resulted in "quick improvement and recovery...preventing a large proportion of operative procedures hitherto necessary."* For dual, synergistic antimicrobial action in a single injection, Combiotic† Aqueous Suspension now available. A big volume specialty supplied in "drain-clear" vials and new, exclusive STERAJECT† Cartridges. No reconstitution required.

*Gaus, W.: Ztschr. f. Laryngol., Rhinol. & Otol. (February) 1952.

THE EYES HAVE IT: "It cannot be disputed that Terramycin is a valuable agent in the fight against trachoma...especially with secondary infections (blepharitis, pannus tenuis, etc.)."* Terramycin Ophthalmic Ointment and Solution were tried against the most severe cases with "truly remarkable" effect on conjunctival secretions which carry the causative virus. "Allergenic reactions never encountered" with Terramycin ophthalmics. A turnover specialty duo on heavy Rx duty straight through summer.

*Cat, N. D.: Presse méd. (May 3) 1952.

ONE IN A MILLION: First procaine penicillin disposable cartridge with 1,000,000 units is STERAJECT,† new, Pfizer exclusive, just released for repeat sales and profit. The ultimate in easy syringeability. Using a single disposable cartridge (no reconstitution required) immediate high penicillin levels are achieved. A "must" for severe and fulminating infections caused by penicillin-sensitive organisms. Of special value in cardiovascular syphilis, where penicillin is a "specific"..."easy to administer."*

*Kampmeier, R. H., and Morgan, H. J.: Circulation (May) 1952.

PROMISING RESULTS: To date, clinical investigations indicate isonicotinic acid hydrazide and its derivatives produce a "rapid, marked and thorough alleviation of the systemic effects of tuberculosis infection."* Clinical studies now under way on possible emergence of drug resistance, optimal dosage, length of treatment, ultimate results of therapy. Pfizer's contribution to this new field of therapeutics is Cotinazin.† Available in 50 mg. tablets, bottles of 100 and 1000. Restricted for use in critical cases of tuberculosis which have proved resistant to streptomycin.

*Selikoff, I. J., and Robitzek, E. H.: Dis. of Chest (April) 1952.

PULLING TOGETHER: In vitro tests indicate Terramycin and Polymyxin B act synergistically against E. coli, A. aerogenes and other urinary tract invaders. Antibiotic synergism manifested by increased bactericidal as well as bacteriostatic activity. Clinical tests suggested in cases which are refractory to commonly used individual antibiotics and sulfonamides.

†Trademark, Chas. Pfizer & Co., Inc.

FOR REPEAT SALES AND PROFITS

NEW

the most complete line of single-dose antibiotic disposable cartridges

Steraject* disposable cartridges

Pfizer Steraject Syringe holds 2 sizes of disposable cartridges

Available in the following forms:

Steraject Penicillin G Procaine Crystalline in Aqueous Suspension (300,000 units)

Steraject Penicillin G Procaine Crystalline in Aqueous Suspension (1,000,000 units)

Steraject Combiotic* Aqueous Suspension (400,000 units Penicillin G Procaine Crystalline, 0.5 Gm. Dihydrostreptomycin)

Steraject Dihydrostreptomycin Sulfate Solution (1 gram)

Steraject Streptomycin Sulfate Solution (1 gram)

With *two* cartridge sizes—each is formulated for *easy syringeability* • *exact dosage*

Maximum convenience for the physician.

Packaging: Each Steraject cartridge supplied in individual carton with sterile, foil-wrapped needle; in shelf packs of 25. Also supplied in bulk cartons of 100 with needle adaptors.

Pfizer

World's Largest Producer of Antibiotics

*TRADEMARK, CHAS. PFIZER & CO., INC

ANTIBIOTIC DIVISION, CHAS. PFIZER & CO., INC., BROOKLYN 6, N.Y.

Briefly Noted

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The annual convention of the **Idaho State Pharmaceutical Association** was held in Boise on June 26, 27 and 28. Four business meetings were held, two on June 27 and two on June 28. A feature of the convention was the Past-Presidents breakfast on the morning of June 27 with past-presidents of the Phi Delta Chi Fraternity and the State Pharmaceutical Association in attendance.

The **Ohio State Pharmaceutical Association** installed George Brown, Youngstown, as president at the closing session of the recent annual convention held in Columbus. Other officers who will serve the organization are: Gilbert Seigel, Toledo, vice-president; Harold K. Emerson, Columbus, and Richard Brading, Wapakoneta, members of the Association Council representing Northwestern Ohio. E. P. Reidenbach, Wheelersburg; Ralph Duvall, Bellaire; and Eugene Schaefer, North Canton, were renamed to the Council.

The **D. C. Pharmaceutical Association** celebrated its one hundredth anniversary at a two-day anniversary convention on June 3 and 4. Officers elected at these sessions are: Aaron A. Paulson, president; Charles W. Bliven, first vice-president; Irving Goldberg, second vice-president; David Tourkin, third vice-president; Miller J. Poppleton, fourth vice-president; Harold C. Kinner, secretary; and Roger W. Lesby, treasurer. More than 250 members attended the anniversary convention which was climaxed with a banquet and ball at the Shoreham Hotel.

Byron Childress, Mishawaka, was elected president of the **Indiana State Pharmaceutical Association** at its 71st annual convention held at French Lick Springs hotel, June 17, 18 and 19. Other officers elected to serve during the 1952–53 term are: Peter J. Mauer, Rising Sun, first vice-president; J. B. Lischke, Lafayette, second vice-president; and Wally Sielski, Gary, third vice-president. The three-day convention program included five important business sessions during which well-known speakers presented timely talks and discussions on problems of vital importance to every pharmacist. One of the highlights of the business sessions was "The All-Pharmacy Forum" with Benjamin A. Smith, of Eli Lilly and Company, as moderator.

Problems pertaining to the operation of the drugstore and the practice of pharmacy were among the important subjects discussed at the 72nd annual convention of the **Illinois State Pharmaceutical Association** held on May 11–14 in Peoria. Also, plans for closer coordination of physicians and dentists with pharmacists were discussed and developed at this important meeting.

More than 1,000 pharmacists and guests attended the 71st annual convention of the **Virginia State Pharmaceutical Association** held June 15–18 in Roanoke. The convention program reviewed the work of the state organization and made plans for the role it would fill in the pharmaceutical profession of the future. Preston L. Collins, Lieutenant Governor of Virginia, opened the three-day meeting.

Hyman J. Mandell, Rochester, was elected president of the **New York State Pharmaceutical Association** at the group's 74th annual convention held June 11 and 12 at Saranac Lake. He succeeds J. J. Goldberg of Queens, who was named executive committee chairman.

COLLEGES

Dr. W. R. Byrum, former associate professor of pharmacology at the University of Georgia School of Pharmacy, assumed his new duties as Director of the Division of Pharmacy at **Howard College,** Birmingham, Ala., on July 1. Dr. C. Lee Huyck, director of the Division of Pharmacy of Howard College since 1947, has relinquished his duties in order to devote more time to teaching, public relations and research.

Jack I. Reader, Chicago, member of the class of 1926, has been elected president of the Alumni Association of the **University of Illinois** College of Pharmacy for the coming year. Other officers are: John P. Taylor, East Peoria, vice-president; Ralph E. Terry, Naperville, treasurer; and Samuel Shkolnik, Chicago, secretary.

(Continued on next page)

Briefly Noted

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The 1953–54 competition for **Fulbright awards** for university lecturing and post-doctoral level research in Europe and the Near East has recently been announced by the **Conference Board of Associated Research Councils.** Applications for university lecturing and advanced research must be postmarked no later than October 15, 1952. Application forms and additional information is obtainable from: Conference Board of Associated Research Councils, Committee on International Exchange of Persons, 2101 Constitution Avenue, Washington 25, D. C.

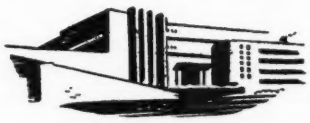
Furnished by Parke, Davis & Company, a new $30,000 pharmacy laboratory was recently opened at **Wayne University** in Detroit. Dr. David D. Henry, president of Wayne University, accepted the new laboratory in a brief ceremony in which Barry J. Loynd, president of Parke, Davis & Company, prepared the first prescription. Completely equipped, the laboratory will make it possible for the teaching of operative and dispensing pharmacy.

The Graduate School of the **University of Pittsburgh** conferred its first two Master's degrees in the field of Pharmacy upon Paul J. Wurdack and August G. Danti on June 11. The subject of Mr. Danti's thesis was "A Phytochemical Study of the Pericarp of *Pyrularia Pubera*," and Mr. Wurdack developed his investigation of the subject of "The Potentialities of Certain Audio-visual Aids in Pharmaceutical Education."

Dr. Edward H. Niles recently retired as Dean of **Butler University** College of Pharmacy. Dr. Niles has served for 38 years in pharmacy education, including 31 years leading and directing the former Indianapolis College of Pharmacy and the present Butler college. Dr. Karl L. Kaufman, executive officer of the college has been appointed as successor.

Brua C. Gocdhart, Merion, Pa., has been named president of the Alumni Association of the **Philadelphia College of Pharmacy and Science** for the 1952–53 session. Louis Milner, practicing pharmacist of Philadelphia, is first vice-president, and Dr. M. O. Holland, editor of *American Professional Pharmacist*, is second vice-president. Paul W. Wilcox, Sharp & Dohme, is treasurer and Freeman P. Stroup, of the College faculty, was reelected secretary.

MANUFACTURERS



Parke Davis & Company recently announced the establishment of a new branch at Santurce (San Juan), serving Puerto Rico, the Dominican Republic, Haiti and the Virgin Islands. This makes a total of nine branches and laboratories located abroad by the 85-year-old firm.

J. Clifton Buck, former vice-president and director of **Smith, Kline & French Laboratories,** died June 14 in Atlantic City, at the age of 85. Mr. Buck had been associated with the Smith, Kline & French organization since 1901, as secretary, vice-president, and director.

Dr. Seymour Lieberman, assistant professor of biological chemistry at Columbia University and a member of the staff of Memorial Hospital, New York City, in recognition of his important work in identifying the steroid compounds isolated from urine, was presented with the **Ciba Award for 1952** at the 34th annual dinner of the Endocrine Society in Chicago on June 6.

A scientific motion picture film "The Physiology of Normal Menstruation" was recently presented by means of a copy to the University of Arkansas School of Medicine by **Schering Corporation,** Bloomfield, N. J. Completely animated and in color, this film presents a review of the currently held theories concerning the phenomenon of menstruation, and is ideally suited as a visual aid in the instruction of medical students.

An honorary degree of Doctor of Pharmacy Administration was conferred on Bert Mull, manager of the Professional Services Department of **Eli Lilly and Company,** on June 1, by Ohio Northern University. The citation reads in part: " . . . for distinguished service to pharmacy—a renowned lecturer, writer, teacher, philosopher and scholar . . . . "

(Continued on page 588)

for Control of Hypertension

Apresoline™

Hydrochloride
(brand of hydralazine hydrochloride)

Apresoline is a relatively safe, *single* antihypertensive drug with no serious untoward reactions, providing benefits in many cases—complete control in some. It is recommended that Apresoline be used in those hypertensive patients who have not been adequately controlled by conventional regimens (diet, mild sedation, rest, etc.). The following important considerations should be of interest in general practice:

Effective in essential hypertension with fixed levels, early malignant hypertension, toxemias of pregnancy and acute glomerulonephritis.

Provides gradual and sustained reduction of blood pressure with no dangerous, abrupt fall on oral administration.

Affords uniform rate of absorption and infrequent dosage adjustments.

Increases renal plasma flow in marked contrast to the decrease associated with other hypotensive drugs.

Side effects often disappear as therapy is continued or can be ameliorated with adjunctive medication.

Produces significant relaxation of cerebral vascular tone.

Complete information regarding manner of use and clinical application available on request.

Ciba

Ciba Pharmaceutical Products, Inc., Summit, New Jersey

Briefly Noted

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Personnel Changes—

Warner-Hudnut, Inc.—Dr. John Frederick Reinhard has been appointed director of pharmacologic research in the Warner Institute for Therapeutic Research. **Wm. S. Merrell Company**—W. Gerald Morson, M.D., was named associate director of the Medical Research Department. **Lederle Laboratories**—Dr. Guy W. Clark retired as technical director after 25 years of service. **Schieffelin & Co.**—Sturgis S. Wilson was elected president, to succeed W. J. Schieffelin, Jr., who becomes chairman of the board. **Eli Lilly & Company**—Eugene N. Beesley was elected executive vice-president. **Smith-Dorsey**—Victor T. Johnson recently assumed his new duties as vice-president. **Lakeside Laboratories, Inc.**—Harold C. Krahnke, formerly chief control chemist, has been named to head the new Pharmaceutical department . . . Elmer Kluchesky will serve as chief of the new Analytical and Control Department. **The Transandino Company**—Dr. David F. Marsh, recently resigned his position as head of pharmacology at West Virginia University, to join the firm as executive vice-president and co-director. **Sharp & Dohme, Inc.**—John G. Bill and Henry W. Gadsden, vice-presidents, have been elected to the board of directors. **Parke, Davis & Company**—W. R. Jeeves, with the firm since 1927, has been named vice-president and director of overseas operations . . . Dr. Leon A. Sweet is the new vice-president and director of research . . .

Nepera Chemical Company—Dr. George W. Mase, medical director, was recently appointed a vice-president in charge of the firm's medical department and research laboratories. **The Armour Laboratories**—Dr. Robert L. Brown has joined the medical consultant service as an assistant medical director.

The Harrower Laboratory, Inc.—George W. Thackeray has been appointed president of the firm . . . Raymond D. Hetterick was promoted to executive vice-president . . . Gilbert J. Straub was recently named director of product development. **S. E. Massengill Company**—Paul E. Carmen was named executive director of research and product development . . . Dr. Norman H. Leake has been appointed to the position of director of research . . . David W. Massengill has been named chief purchasing agent.

To Boost Your Rx Business in '52...

schenley representatives will be calling on physicians every business day... schenley advertisements will appear in leading journals every month...and forceful direct-mail messages will be mailed almost every week—all stressing the advantages of these Schenley specialties

TITRALAC*	The antacid that acts like milk
RUTAMINAL*	Extra protection for the cardiovascular patient
SEDAMYL*	Sedation without hypnosis...ideal for daytime use
VASCUTUM*	For the life that begins at forty
DORBANE*	Constipation control...through chemical kinship to cascara

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LAWRENCEBURG, INDIANA

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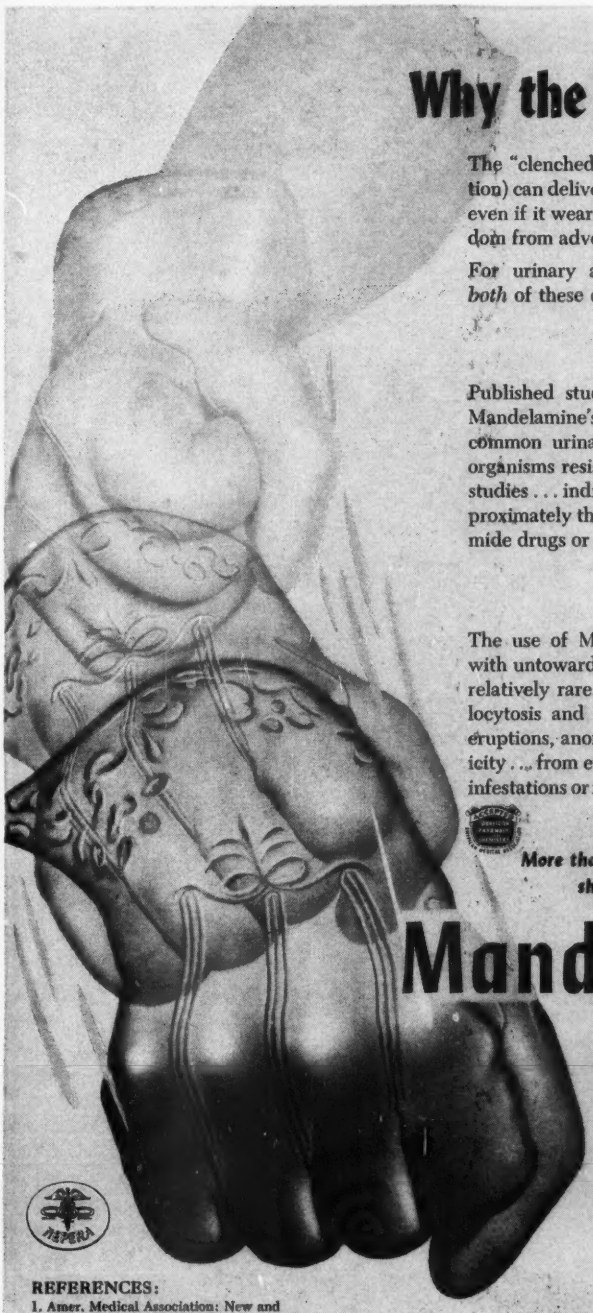
AT RANDOM

The Remington Medal Presentation Dinner, in honor of **Dr. Patrick H. Costello,** 1952 recipient, will be held in New York City on December 2, in the Hotel New Yorker. As in the past, the dinner will be sponsored by the New York Branch of the A. PH. A. Professor Frank J. Pokorny, secretary of the Branch, will make the presentation. Dr. Costello was also honored on June 11 with the awarding of an honorary Doctor of Pharmacy degree by the Rhode Island College of Pharmacy. The Citation read, in part: "Noted pharmacist, executive of high ability, renowned leader in pharmaceutical endeavours. Thoroughly conscientious in his high objectives, he has qualified himself for the highest honors which Pharmacy can bestow upon him."

(Continued on page 590)



Why the Velvet Glove?

The "clenched fist" (of effective antibacterial action) can deliver just as effective a knock-out blow, even if it wears the "velvet glove" (of virtual freedom from adverse side effects).

For urinary antisepsis, Mandelamine provides *both* of these clinical advantages:

... BROAD SPECTRUM ANTIBACTERIAL POTENCY

Published studies[2,3,4] show the wide range of Mandelamine's effectiveness—against all the most common urinary pathogens, even against many organisms resistant to other drugs. "Comparative studies ... indicate that its effectiveness is of approximately the same order as that of the sulfonamide drugs or of streptomycin."[1]

... VIRTUAL FREEDOM FROM ADVERSE DRUG REACTIONS

The use of Mandelamine is "seldom associated with untoward effects ... toxic manifestations are relatively rare."[1] It is notably free from agranulocytosis and other blood dyscrasias, cutaneous eruptions, anorectal complications, and neurotoxicity ... from encouraging monilial or trichomonal infestations or inducing drug fastness in organisms.

More than a decade of increasing clinical use shows YOU CAN HAVE BOTH ... with

Mandelamine®

(Brand of Methenamine Mandelate)

for URINARY ANTISEPSIS

SUPPLIED: Tablets, enteric-coated, containing 0.25 Gm. (3¾ gr.) methenamine mandelate—bottles of 120, 500 and 1000.

DOSAGE: 3 or 4 tablets t.i.d. for adults—children in proportion.

NEPERA CHEMICAL CO., INC.
Yonkers 2, N.Y.
Pharmaceutical Manufacturers

REFERENCES:

1. Amer. Medical Association: New and Nonofficial Remedies, J. B. Lippincott Co., Philadelphia, 1951.
2. Carrol, G. & Allen, H. N.: J. Urol. 55:674, 1946.
3. Kirwin, T. J. & Bridges, J. P.: Am. J. Surg. 52:477, 1941.
4. Simons, I.: J. Urol. 64:588, 1950.

Briefly Noted

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HOSPITAL PHARMACY

According to the 1952 Edition of the Directory issue of **Hospitals**, the Journal of the American Hospital Association, there is a total of 3,117 pharmacies in the 6,192 hospitals reported in 1951. Included also in this issue are statistics on many phases of hospital practice for the period covering October 1, 1950 to September 30, 1951. The income per patient day for 1951 was $16.24 compared with $15.80 in 1950. The average daily census in U. S. Hospitals was 1,292,841.

This publication, also known as the *Administrators Guide Issue*, is divided into four parts—Statistical Guides; Guide to Hospitals; Guide to Organizations and Schools; and Management Guides. The section on "Pharmacy" has been compiled by John J. Zugich, an administrative assistant at University Hospital in Ann Arbor, Mich. and formerly a practicing hospital pharmacist. Information is included on Organization; Functions; Physical Facilities; Personnel; Internship Programs; and the Basic Pharmacy Library.

Two new affiliated chapters of the American Society of Hospital Pharmacists include the **Georgia Society** headed by Miss Johnnie Crotwell, chief pharmacist at Georgia Baptist Hospital in Atlanta; and the **North Carolina Society** headed by Mr. Gilbert Colina, chief pharmacist at Mercy Hospital in Asheville.

vi-syneral vitamin drops

first and **original**

aqueous solution of
fat-soluble plus
water-soluble vitamins.
(U. S. Patent No. 2,417,299.)

u. s. vitamin corporation
casimir funk laboratories, inc. (affiliate)
new york 17, n. y.

The AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists joined with the hospital organizations in sponsoring two **Institutes on Hospital Pharmacy** this year. The first, under the sponsorship of the Catholic Hospital Association, was held in Cleveland, Ohio, May 24–28. Following the theme of the C.H.A.'s annual convention—The Meaning of Efficient Patient Care—discussions were centered around such problems as "The Hospital Pharmacy and Therapeutics Committee," "The Hospital Formulary," and "A Point Rating Plan for Evaluating Hospital Pharmacy Services." Other subjects covered included new drugs, hospital pharmacy policies and manufacturing. The program was in charge of the C.H.A.'s Committee on Hospital Pharmacy Practice headed by Sister Mary Carl Marty, chief pharmacist, St. Dominic's Hospital, Jackson, Miss.

Joining with the Canadian Society of Hospital Pharmacists and the Canadian Hospital Council for the 1952 Institute sponsored by the American Hospital Association, the A. PH. A. and the A.S.H.P., 160 were enrolled for the five-day meeting held at University of Toronto, June 23–27. Registrants represented all types and size hospitals and came from every Province in Canada, Alaska and throughout this country. Chairman of the Planning Committee was Walter M. Frazier, president of the A.S.H.P.

The **Washington State Board of Pharmacy** recently passed the following Regulation No. 37 providing for pharmacy service in hospitals in the state:

1. Each general hospital having 75 or more beds shall have an organized pharmacy department which shall be under the supervision of a licensed pharmacist who shall be a full-time employee of the hospital.
2. All other hospitals having 75 or more beds shall have an organized pharmacy department which shall be under the supervision of a licensed pharmacist who shall render his service either on a full-time or part-time basis.
3. Each hospital with from 25 to 74 beds, which does not have the services of a full-time pharmacist, shall have its pharmacy services under the supervision of a licensed pharmacist who shall render his services on a part-time basis.

(Continued on Page 592)

For

poison ivy

insect bites

and miscellaneous

summer ITCHES...

BRISTAMIN* LOTION affords prompt and sustained relief with three or four applications daily.

A new, versatile antihistaminic and antipruritic, it is supplied in a cosmetically delightful neutral base which fastidious patients will appreciate.

Contains no calamine, phenol, or other drying ingredients to cause intensified rebound symptoms.

Available in bottles of 6 fluid ounces.

Bristamin Lotion

TRADEMARK

*Bristamin brand of Phenyltoloxamine, an exclusive development of Bristol research, is an antihistaminic, antimycotic, and topical anesthetic with an exceptionally low order of toxicity.

Bristol
LABORATORIES INC.
SYRACUSE, NEW YORK

Briefly Noted

• • • • • • • • • • • • *from page 590*

4. Each hospital of less than 25 beds, which does not have the services of a full-time pharmacist, shall have its pharmacy service either under the supervision of a licensed pharmacist in the community or under the supervision of a representative of the Washington State Board of Pharmacy, who shall be a licensed pharmacist. Supervision by a representative of the Washington State Board of Pharmacy shall be requested from the Washington State Board of Pharmacy by the hospital when the service of a licensed pharmacist in the community is not available.

The **Hospital Facilities Division** of the Public Health Service has recently made available a booklet of reprints covering basic information for the hospital pharmacist and hospital administrator planning a department. Included are the Suggested Floor Plans, the Suggested Equipment List, the Supplies List and Pharmacological Index, along with the *Minimum Standard*. Articles on the Philosophy of the Standard by Dr. Robert P. Fischelis, Secretary of the A. PH. A., and basic information for the hospital administrator by Mr. Alex Milne, pharmacy specialist in the Hospital Facilities Division, are also a part of this reprint.

GOVERNMENT

James O. Clarke, chief of Food and Drug Administration Division of program research, retired on June 30 after 35 years of service. **Robert S. Roe,** former chief of the Los Angeles district, succeeded Mr. Clarke.

Dr. G. Halsey Hunt was recently appointed an Assistant Surgeon General of the Public Health Service, according to an announcement by Surgeon General Leonard A. Scheele. Dr. Hunt, formerly chief of the Division of Hospitals, will serve as associate chief of the Bureau of Medical Services.

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for Control of Hypertension

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(brand of hydralazine hydrochloride)

Apresoline is a relatively safe, *single* antihypertensive drug with no serious untoward reactions, providing benefits in many cases—complete control in some. It is recommended that Apresoline be used in those hypertensive patients who have not been adequately controlled by conventional regimens (diet, mild sedation, rest, etc.). The following important considerations should be of interest in general practice:

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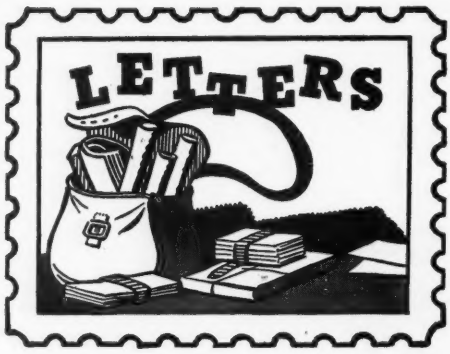

Help in the Philippines

Sirs:

My son, Lt. John Boyd, presently stationed in the Philippines, has expressed how wonderful THE JOURNALS are in keeping him up to the minute on all current advances in Pharmacy; and how they help him to maintain a better contact with his profession in the States from his overseas base.

Andrews, S. C. MRS. THOMAS L. BOYD

Interesting As Ever

Sirs:

Thank you very much for the wonderful monthly JOURNAL. It is as informative and interesting as ever. I anxiously look forward to receiving it every month.

Davenport, Iowa JAMES A. HIPPLER

Membership and Medicine

Please continue my active membership in the ASSOCIATION. In times like these, when duty calls us from our profession, the reading of good professional literature becomes of utmost importance if we are to keep astride of rapid progress made in medicine. Our own JOURNAL is very well written for this use.

San Francisco D. W. MCMORRIS, Lt., U.S.A.

Detailing

May I take a moment to tell you how helpful I find the new section of THE JOURNAL about "Products to be Detailed." With the numerous products appearing daily I find this section acts as a barometer to me in helping to regulate stock more closely. I look forward to see this fine JOURNAL continued.

Trenton, N. J. EDWARD FLANAGAN, JR.

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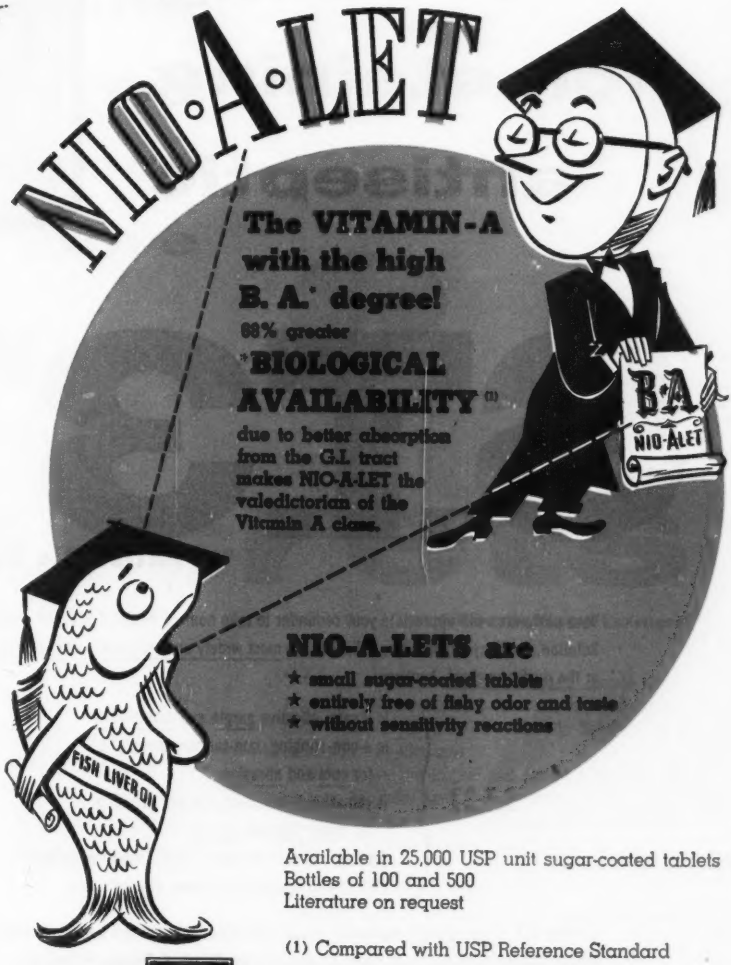

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STUDENT BRANCHES

New officers of the **University of North Carolina Branch,** Chapel Hill, are: Charles D. Blanton, president; Thomas R. Burgiss, vice-president; Jacquelyn Lee O'Neal, secretary; and Jerry T. Gaylord, treasurer.

A monthly meeting of the **Loyola University Branch,** New Orleans, was held on June 18. Reports were presented by members of the Junior and Senior classes concerning the recent trip to St. Louis and Indianapolis, to visit pharmaceutical manufacturing firms.

Members of the **Loyola University Branch,** New Orleans, elected the following to serve during the 1952–53 term: Ralph Guerra, president; Claude Marquer, vice-president; Joseph Mouton, recording secretary; Marie Parrino, corresponding secretary; Ola Morgan, treasurer; and John Jewell, historian.

The Albany College of Pharmacy Branch held its annual banquet on May 14. Dr. Rudolph Blythe, class of 1931, and presently director of pharmaceutical research for Smith, Kline & French Laboratories, spoke on "The Pharmacist in Industry." Officers installed were: Gilbert Banker, president; Virginia Manory, vice-president; Lila Pompilio, secretary; and Werner Lowenthal, treasurer. The meeting was brought to a close with a short address to graduating members by Dr. Francis J. O'Brien, faculty advisor.

Lawrence DuBow was recently elected president of the **University of Illinois Branch,** Chicago. Other officers are: Basil Fritsch, vice-president; and Dorothy Woitovich, secretary-treasurer.

The Senior Banquet of the **University Wisconsin Branch,** Madison, was held on May 25 with 194 members and guests present. Dr. Richard Deno was the guest speaker and Dr. George Urdang was guest of honor.

The **St. Louis College of Pharmacy Branch** recently purchased and had installed a new public address system to be used in the college auditorium.

Edward Graham was recently elected president of the **Drake University Branch,** Des Moines, Iowa. Other officers are: Robert Ludolph, vice-president; Leland McNeill, secretary; and Marjorie Wilson, treasurer.

Newly elected officers of the **University of South Carolina Branch,** Columbia, are: Garvin E. Waldrop, president; D. O. Blanchett, vice-president; Thomas D. Leonard, secretary; and J. L. Nye, treasurer.

LOCAL BRANCHES

A group of students from the University of Southern California, the first class of students to receive their doctors' degrees in pharmacy from the University, represented the **Greater Los Angeles Branch** of the A. PH. A. at the parent organization's Centennial Celebration held in Philadelphia, Pa., August 17–22.

A total of twenty charter members recently established a local branch of the A. PH. A. in the State of Washington, to be known as the **Puget Sound Branch.** Officers of this new branch are: Paul A. Monroe, president; Jim L. Bracken, vice-president; Mary P. Hall, secretary; and Joseph E. Birmingham, treasurer.

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aqueous solution of
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The danger of sedation from many antihistamines—particularly for active patients—has been repeatedly emphasized.

Neohetramine affords an unusual degree of freedom from sedative effects (full alertness has been reported in 98.2% of patients tested) — combined with a high degree of therapeutic efficacy.

As compared[1] with five other widely used antihistamines in tests on 781 patients (including 399 cases of hay fever):

Incidence of Drowsiness		*Hay Fever Patients Relieved*
1.8%	NEOHETRAMINE	71.7%
42.9%	Antihistamine A	63.6%
13.5%	Antihistamine B	73.2%
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6.2%	Antihistamine D	56.2%
10.1%	Antihistamine E	76.6%

1. Schwartz, E.: Ann. Allergy 7:770, 1949.

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Cream 2% – in water-miscible base, in collapsible tubes of 1 oz.

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New A.Ph.A. Members

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

CALIFORNIA

Andrews, Leonard S., Richmond
Crowe, Robert A., Los Angeles
Hillhouse, Lyman J., Modesto
Louie, Alice M., Bell
Przybyla, Delores B., San Francisco

DISTRICT OF COLUMBIA

Paulson, Aaron A., Washington

FLORIDA

Feurt, Seldon D., Gainesville
Lieber, Marvin, Miami

GEORGIA

McCleskey, Thomas M., Atlanta

ILLINOIS

Armsworth, Sam E., Decatur
Heinkel, Byron D., Jr., Rantoul

INDIANA

Kraft, Charles L., Indianapolis

MAINE

Baratta, Mario C., Portland

MARYLAND

Kramer, Stanley P., Baltimore
Wagner, Manuel B., Baltimore

MASSACHUSETTS

Bemis, Walter E., Summerset
Kozlovsky, Philip, New Bedford

MICHIGAN

Sister Mary Cleophas Stawecka, Cadillac

MISSOURI

McMichael, Glen C., St. Joseph

NEW JERSEY

Golden, Marion V., Long Branch
McCallum, Neill H., Jr., Vineland
Obolsky, Benjamin, Bergenfield

NEW YORK

Deodati, D. J., Staten Island
Heggie, Robert, Garden City
Maruzzella, Jasper C., Bronx

OREGON

Bates, L. E., Gilchrist
Brandis, Richard W., Bend
Buckingham, Harlan, Bend
Claassen, Harry C., Bend
Cruickshank, Kenneth G., Bend
Downing, E. Lester, Prineville
Jagels, R. L., Madras
Jarmin, Marc B., Bend
Kriz, Howard, Madras
LaMothe, Francis C., Bend
Lehmberg, Joseph D., Prineville
Livingston, Richard G., Prineville
Magill, Lloyd H., Bend
McCaulou, Walter, Madras
Norton, James F., Redmond
Smith, Roger P., Bend
Welker, Sherman R., Prineville
Whitehouse, Eugene W., Redmond
Young, H. Allen, Bend

PENNSYLVANIA

Atkinson, Joan V., Pittsburgh
DiPasquale, Olga, Philadelphia
Giunta, Joseph F., Honey Brook
Kuryloski, E. L., Philadelphia
Scaran, Dorothy A., Hazleton
Whitmoyer, C. W., Myerstown

SOUTH CAROLINA

Harvey, S/Sgt. Charles E., Shaw AFB

SOUTH DAKOTA

Riggs, Glenn J., Igloo

TEXAS

Blackwell, Alice B., Austin

WASHINGTON

Hoover, J. W., Seattle
Klingel, Brandt L., Spokane
McGlothing, Paul, Seattle

WISCONSIN

Porter, Adele, Milwaukee
Riegelman, Max, Milwaukee

FOREIGN

Brochy, Paul M., Quebec, P. Q., Canada

Deceased Members

Densow, Bert B., Spokane, Wash.
Dimond, Harry John, Buffalo, N. Y.
Pitts, Harold R., Milwaukee, Wis.
Sister Magdalen, Baltimore, Md., June 1, 1952
Stroup, Freeman Preston, Philadelphia, Pa., July 19, 1952

INTERNATIONAL ACADEMY OF THE HISTORY OF PHARMACY

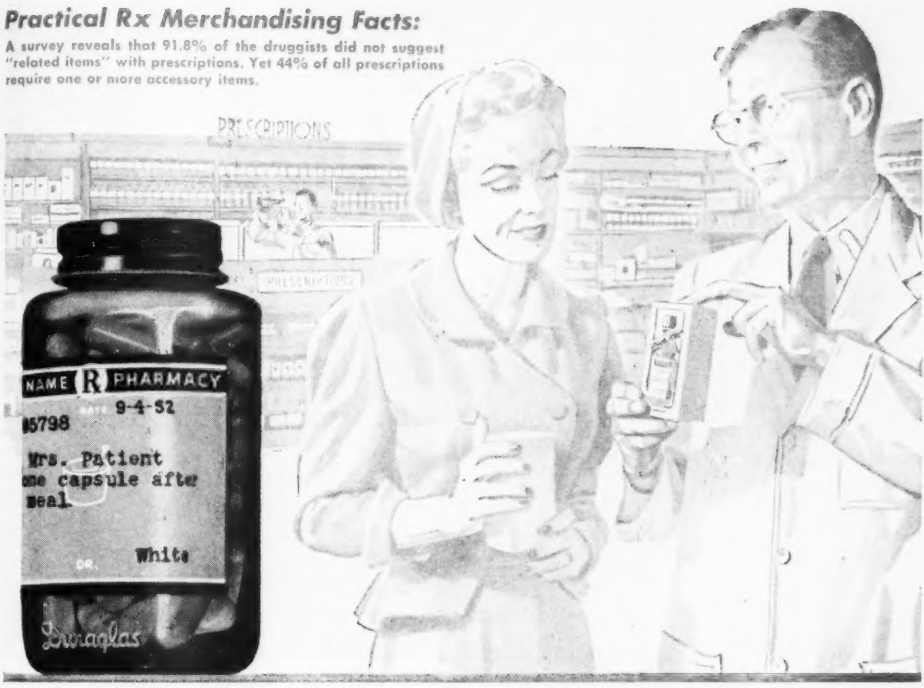
Early this year about fifty prominent scientific representatives of the history of pharmacy in over twenty countries agreed on the founding of an International Academy of the History of Pharmacy. The official founding date is June 13, 1952, this date having been chosen in honor of George Urdang, Director, American Institute of the History of Pharmacy, who celebrated his seventieth birthday on that day.

The statutes of the "Academy" state as its main purpose "to stimulate international cooperation in the history of pharmacy, and in particular, to act as a pharmaceutico-historical Upper House." A further aim is the establishment of a library serving the students of the history of pharmacy and of respective archives.

Following the customary rules of academies in other fields, the statutes of the International Academy of the History of Pharmacy provide for a limited number of members, new members to be elected by the old ones in case of a vacancy by death or resignation whereby suggestions may be made from the outside as well as inside the "Academy." Georg Edmund Dann, lecturer in the History of Pharmacy, University of Kiel, Kiel, Germany, is the chairman of the founding committee, and the official address is: Alexanderstraat 11, The Hague, Holland.

Practical Rx Merchandising Facts:

A survey reveals that 91.8% of the druggists did not suggest "related items" with prescriptions. Yet 44% of all prescriptions require one or more accessory items.



Dispense your dry Rx in MOISTURE-PROOF glass containers

69.8% of all prescriptions are stored in bathroom medicine cabinets.* Many dry prescriptions should be kept in refrigerators.

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*Bathroom Medicine Cabinets Survey conducted by Home Makers Guild of America

Duraglas Rx CONTAINERS — *the highly preferred Rx containers!*

THE 10 "MUSTS" OF GOOD RX CONTAINERS

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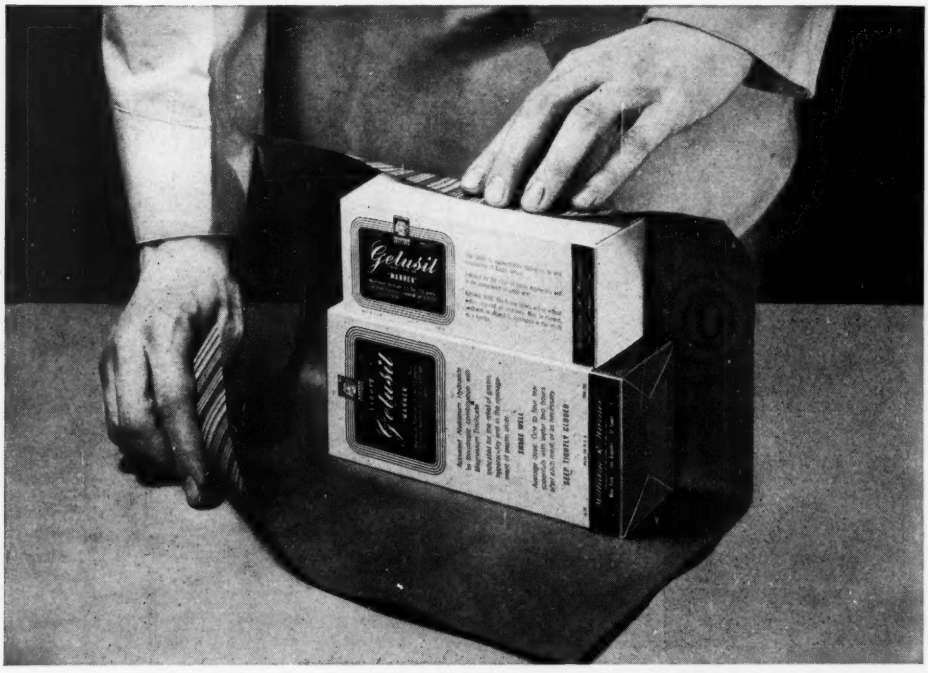
4. They must permit clear vision of their contents.
5. They must be sturdy.
6. They must not disintegrate if accidentally water-soaked.
7. They must be available in sizes convenient for purse or pocket.
8. They must be of inert material so that they cause no change in their contents.
9. They must be available in all practical sizes.
10. They must be low in cost.

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES



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This natural combination sale creates extra profits

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HERE'S HOW YOU MAKE MORE MONEY

	Wholesale list		*Then your cost is*	*You gain*
Liquid 12 oz.	$1.10 Each	When you buy 12 or more	$ .99 Each	11¢ a bottle
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CORICIDIN

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CORICIDIN (antihistamine, antipyretic, analgesic) Tablets are available in tubes of 12, and bottles of 100 and 1000 tablets.

*Manson, M. H.; Wells, R. L.; Whitney, L. H., and Babcock, G., Jr.: Internat. Arch. Allergy & Applied Immunol. *1*:265, 1951.

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CORICIDIN

Corticotropin (ACTH)

Upjohn

The Upjohn Company in early June announced production of Cortisone Acetate, 25 mg., Tablets.

Now we are announcing the availability of Corticotropin (ACTH).

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Upjohn's extensive experience in the research and manufacture of adrenal cortical products has made it possible to provide the medical profession with *both* Cortisone and Corticotropin.

A contribution of **Upjohn Research** *to this era of metabolic medicine*

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

you benefit from the trend to tablets in diuretic therapy

Oral diuretic therapy for cardiac patients is increasing rapidly.

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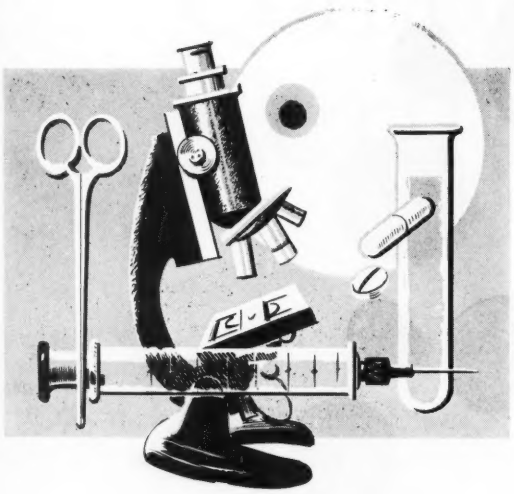
RECENT PROGRESS IN MEDICINE



medical articles in the lay press

Prescription practice is often influenced by articles which appear in newspapers and in general magazines. Mr. Doyle reports here on the extent of this influence on the medical and pharmaceutical professions.

by William T. Doyle*

ONE EVENING about two months ago, I was in a physician's office in connection with preparation of this paper. A well-dressed man about fifty years of age pushed his head through the half-closed office door, and said: "Doctor, my wife just read in tonight's newspaper a story about a new drug for high blood pressure. It has a long chemical name, but I knew you would know all about it—so down I came. Honestly, doctor, do you think it would help me?"

The doctor's answer was probably not as enthusiastic as the anxious patient expected. "Well, John," said the medical man, "I have not read tonight's paper yet. But I will check into this new drug you describe, and if it is indicated in your case I will see what I can do about getting some."

Without doubt many physicians all over the United States were being asked the same question by their hypertensive, overwrought patients.

In one way this experience again demonstrates the power and influence of the lay press on modern medical practice. It also, however, points up the tremendous responsibility all the segments of public health have to the sick and worried. Medicine, pharmacy, and pharmaceutical research are guardians of the public's health, and it is up to all of us to make certain that when the occasion arises the press is given the complete facts without coloring, and in easily understandable lay language.

Frequency of Articles in Lay Press

Over the period January through June of 1952, the author has found an average of 43 articles per month in lay magazines on medical subjects, and 11 stories per day in three New

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A paper delivered before the Section on Pharmaceutical Economics, AMERICAN PHARMACEUTICAL ASSOCIATION, August 19, 1952, Philadelphia, Pa.

* Vice-president, Organon Inc., Orange, N. J.

The *weight reduction problem*

a more complete solution . . .

OBEDRIN plus THE 60-10-70 DIET

Obedrin Tablets permit full utilization of the appetite depressing action of methamphetamine hydrochloride but eliminate the central nervous stimulation, so the patient does not suffer from nervous irritability and insomnia.

The 60-10-70 Basic diet provides the basic minimum of proteins to maintain nitrogen balance, the basic minimum of carbohydrates to "burn off" excessive fat in storage.

Obedrin Tablets and the 60-10-70 basic diet will permit loss of weight with minimum discomfort, thus inviting patient cooperation.

FORMULA

*Semoxydrine Hydrochloride	5 mg.
Pentobarbital Sodium	20 mg.
Ascorbic Acid	100 mg.
Thiamine Hydrochloride	0.5 mg.
Riboflavin	1 mg.
Niacinamide	5 mg.

*Methamphetamine Hydrochloride

Obedrin is supplied in bottles of 100, 500 and 1,000 yellow grooved tablets.

A COMPLIMENTARY PAD OF DIET SHEETS AND A TRIAL SUPPLY OF OBEDRIN SENT TO PHYSICIANS ON REQUEST.

Obedrin

MASSENGILL BRISTOL, TENNESSEE

Medical Articles

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York and Chicago newspapers. This average, of course, does not include medical feature column conducted by some well-known physicians. It is further estimated that 100 million or more of the U. S. population comes into contact at least once each week with medical articles in the lay press.

There is no question that today the U. S. is the healthiest nation in the world. The public expects and deserves the latest information to keep it healthy and strong.

Americans are living much longer. The older half of the population dying in 1950 had lived 66 years or more; in 1900 only 30 years or more.

During the same time, the general death rate has been cut almost in half—a saving of more than one million lives a year.

Total U. S. population has doubled since 1900, but the population 65 years of age and older has quadrupled. This is due largely to saving the lives of infants, children, and young adults so that they live to be 70 or 80.

An American mother today has better than 999 chances of 1000 to come through childbirth safely... the best record in our history and, on a comparable basis, the best in the world.

Her baby has a good chance of living to be seventy. A baby born in 1900 had an average life expectancy of only 49 years.

A Survey of Newspapers

As a result of the great progress that has been made toward better health and longer lives we find tremendous interest on the part of the public in medical articles.

A recent survey by the National Association of Science Writers revealed that (1) Science news space in newspapers has doubled during the last ten years. (2) Medicine and public health rank first in terms of public interest.

As far as subject matter is concerned, the author's study would indicate that stories concerning cancer, heart disease, poliomyelitis, arthritis, and allergy are of the most interest. All articles in the lay press relating to these diseases get excellent readership.

Mr. Steven Spencer of the *Saturday Evening Post* explained the view of most newspaper and magazine editors when he said some time ago, "No informed person expects science to move forward at a steady, unchanging pace. It is inevitable that medicine may occasionally take three steps upward, and then find it must back down one step to secure a firmer foothold—but it has made a net gain of two steps. Surely the public is entitled to witness this progress, no matter how irregular and interrupted it may be. It is the science writers' contention that the public should learn of new developments touching on its health just as soon as a number of qualified physicians feel that the developments have promise and that they have been *tried out sufficiently to justify continued use.* Those who are ill need all the hope and encouragement they can find, and they find a great deal in the good news of medicine's accomplishments. The disease which a patient is suffering may be incurable today, but his faith in medical science

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Author's Summary

Medical articles in the lay press often have as serious an impact on medical practice as do articles appearing in medical journals and thus might well be considered under the general heading of "Recent Progress in Medicine."

Over a six-month period, an average of 43 medical articles per month appeared in lay magazines.

Eleven medical stories per day appeared in three New York and Chicago newspapers.

It is estimated that 100 million or more of the U.S. population comes into weekly contact with medical articles in the lay press.

A recent survey by the National Association of Science Writers revealed that (1) science news space in newspapers has doubled during the last ten years, and (2) medicine and public health rank first in terms of public interest.

The fact that the public is more health conscious than ever before has been brought about through better education and a more conscious and responsible public press.

SEPTEMBER, 1952

Pfizer antibiotics reporter

Prepared for the ... Pharmacist

NEW CONVENIENCE FOR PHARMACISTS: For new convenience in filling Terramycin liquid Rx's, Pfizer announces simultaneous discontinuance of Terramycin Elixir, and introduction of new formulation of delicious, taste-tempting Terramycin Oral Suspension. New formulation features unique compounding ease – no special diluent needed – just add water and shake! New single bottle saves valuable shelf space.

ON MAJOR Rx DUTY: Reduction in death rates from severe burns points to new advances in therapy – significantly, combined penicillin-streptomycin for dual, "cross-fire" antibiotic action. A "must" in all emergencies, "Combiotic† should be administered...a single injection...for the first 21 days – to control infections, preserve the viable islands of epithelium, prevent the conversion of wounds into more serious 3rd degree burns."* A "must" for year-round re-orders, Combiotic is supplied in most convenient form for physician and pharmacist – Aqueous Suspension, requiring no reconstitution. A single dose provides 400,000 units Penicillin G Procaine Crystalline and 0.5 Gm. Dihydrostreptomycin Sulfate. Single- and 5-dose vials, as well as unique Steraject† single-dose disposable cartridges!

*Eisenstodt, L. W.: J. M. Soc. New Jersey (February) 1952.

"WILL PREVENT BLINDNESS IN THOUSANDS"*: Terramycin is "revolutionizing therapy of ophthalmological infections... accomplishing what the sulfonamides, penicillin and similar drugs have failed to do." According to Dr. Y. Mitsui, clinical trial of Terramycin in over 2,000 patients inspires "new hope" for ridding the world of such stubborn and blinding diseases as trachoma. Dacryocystitis, angular conjunctivitis, blepharoconjunctivitis all "respond dramatically" to the antibiotic "without evidence of any harmful side effects." Terramycin Ophthalmic Ointment – 1/8 oz. tubes, 5 mg. per Gm. of ointment; Ophthalmic Solution – 5 cc. dropper-vials containing 25 mg. for preparation of topical solutions.

*Mitsui, Y.: J. of Fac. of Med., Baghdad, Iraq (January) 1952.

A MILLION IN ONE: The trend in modern therapy is toward "massive administration of antibiotics"* – and Pfizer offers exclusively the first and only Cartridge with 1,000,000 units penicillin in aqueous suspension, no refrigeration required. It's new – It's unique – It's one of a complete line of STERAJECT CARTRIDGES, providing full standard antibiotic doses, premeasured per cartridge! Each cartridge individually labeled. Reconstitution eliminated. The ultimate in injection ease, they're self-selling!

*Pitts, W. R.: Laryngoscope (April) 1952.

SOLUTION FOR NEW Rx's: Newest, most convenient form of Streptomycin is volume-building Streptomycin Sulfate Solution Pfizer. Eliminates reconstitution and refrigeration...assures accurate dosage, full potency for 18 months at room temperature. Streptomycin, the antibiotic of growing clinical usefulness, recently acclaimed "drug of choice in tularemia."* In all of 44 cases, some unsuccessfully treated with other drugs, "good response was achieved without relapse." An average of 6 Gm. was administered over 6 days. Streptomycin Sulfate Solution Pfizer supplied in 2 cc. and 10 cc. "drain-clear" vials containing the equivalent of 1 Gm. and 5 Gm. Streptomycin, respectively, in solution. And – for simplest injection procedure – also available in new Pfizer Steraject single-dose disposable Cartridges, providing 1 Gm.

*Corwin, W. C., and Stubbs, S. P.: J.A.M.A. (May 24) 1952

†Trademark, Chas. Pfizer & Co., Inc.

NEW improved

Terramycin

oral suspension

just add water and shake to mix
"drain-clear" silicone coated bottle
single dispensing bottle (1 oz.) saves shelf space
1.5 Gm. Terramycin and flavoring in dry powder

250 mg. in each teaspoonful (5cc.)
(with plastic dispensing spoon for full dosage)

Pfizer world's largest producer of antibiotics

ANTIBIOTIC DIVISION, CHAS. PFIZER & CO., INC., BROOKLYN 6, N. Y.

Medical Articles

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may help sustain him until the arrival of tomorrow's successful treatment."

Lay Articles and Prescription Trends

With the fine cooperation of the management of three well-known pharmaceutical companies, plus the excellent market research facilities of the Research Society, Inc., of Boston, Mass., the author was able to develop three case histories showing the influence of articles in the lay press on prescription trends. Of course, it was necessary to disguise these case reports so that detection would be very difficult—if not impossible.

Case One

Product A had been on the market for almost one year. Its sales volume was running at the rate of approximately 1900 units per month.

At the end of the first year a new clinical indication was uncovered which widened the scope of the market many times.

The clinical results were timed to be presented at an important medical meeting. The publicity committee of the medical society arranged for press releases. Within thirty days after the announcement of a new use for a not-so-new drug, the sales in terms of packages increased from the 1900 units per month to 18,300 units. This rate of increase continued for ninety days and then leveled off at approximately 17,400 units per month.

Case Two

Product B had been on the market for three years. Its sales volume had been static for more than a year at about 10,000 units per month.

A public relations program was undertaken based on a new series of clinical studies.

At the end of eighteen months, the product had registered increases at just double its previous volume, or around 20,000 units per month. Since then there have been two minor drops in sales, but at this date the sales curve has stabilized.

Case Three

Product C was a new one. Coincident with its introduction a series of papers appeared in the medical literature praising its usefulness.

The sales forecast was conservative in view of stiff competition from two somewhat similar products.

A public relations program was launched to tie-in with the clinical findings. Within thirty days following the introduction of this product, the original sales forecast was jumped 400 per cent.

The sales curve continued to show an upward trend for eighteen months, and then levelled off where it has earned a very profitable niche for itself.

Within a few months another series of articles in the lay press is expected. As with the most successful public relations programs. The campaign is planned around some new and encouraging clinical findings by reputable investigators.

Today, the U. S. Public is more health conscious than ever before. This change has been brought about through better education a longer life-span, and a more conscious and responsible public press.

Pharmaceutical manufacturers have been of great assistance in bringing about a more acute awareness of good health. Through intensified research the manufacturer has become the development center for such important contributions as sex hormones, vitamins, sulfa drugs, cortisone, ACTH, the antibiotics, the antihistaminics, and many more.

When you stop and realize that the average pharmaceutical company spends almost $30,000 per research worker per year, it becomes very evident that the trend is definitely toward more exciting developments which lend themselves to articles in the lay press. This point is further dramatized when you learn that almost four out of every five prescriptions are for pharmaceutical specialties. It is no wonder then that the public so conscious of protecting its health, finds a great deal of encouragement in the good news of medicine's achievements.

PHARMACY *of Tomorrow?* The young men and women selected and aided by you to complete undergraduate courses of study in the Americas, will insure the future of your pharmacy and of the profession. B.Sc. degrees in Pharmacy, Chemistry, Biology and Bacteriology offered, and graduate studies leading to M.Sc. and D.Sc. degrees.
Write for free catalog.

Philadelphia
COLLEGE OF PHARMACY AND SCIENCE
43rd St., Kingsessing and Woodland Aves., Philadelphia 4, Pa. Founded in 1821.

PRESCRIPTION PRODUCTS

All items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists, through these pages, will have full information at the same time, or even before, products are detailed to the physician. For inclusion in this free editorial department, send descriptive literature to the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, *2215 Constitution Avenue, N. W., Washington, D. C. Where possible, all descriptions should follow the style shown on these pages.*

In order to tell the complete story of the Centennial Convention, the editors have deleted the six-months continuing index from this issue. It will reappear in October and the months to follow. The index which appeared in August can, however, be used in conjunction with the new products listed on these two pages.

AEROLONE COMPOUND

Description: Solution, containing in each 100 cc.: Clopane hydrochloride, 0.5 Gm.; Aludrine hydrochloride, 0.25 Gm.; atropine sulfate, 0.1 Gm.; procaine hydrochloride, 0.2 Gm.; propylene glycol, 80 cc.; and water, distilled, *q. s.* to make 100 cc.

Indications: Palliative treatment of asthma, status asthmaticus, and emphysema.

Administration: To be used in suitable nebulizer capable of producing mist particles one micron or less in diameter; inhalation procedure as directed by physician.

Form Supplied: 1-ounce bottles.

Source: Eli Lilly and Company, Indianapolis, Ind.

CHLORAL HYDRATE

Description: Encapsulated chloral hydrate.

Indications: As a daytime sedative and as a hypnotic for the production of desirable, normal sleep.

Administration: Daytime sedation: One $3^3/_4$-gr. capsule three times a day after meals. Hypnosis: One to two $7^1/_2$-gr capsules at bedtime.

Form Supplied: Blue and white $3^3/_4$-gr. capsules in bottles of 24 and 100. Blue $7^1/_2$-gr. capsules in bottles of 50.

Source: Fellows Pharmaceuticals, New York, N. Y.

DEXEDRINE SPANSULES

Description: Spansules, each containing more than 100 tiny pellets with varying disintegration times, thus releasing the dexedrine (15.0 mg.) gradually, yet uniformly, over a span of 8 to 10 hours, with the therapeutic effect lasting approximately 12 hours.

Indications: For control of appetite in weight reduction; in depressive states; nocturnal epilepsy; narcolepsy; alcoholism; postencephalitic parkinsonism; nausea and vomiting of pregnancy; and to dispel drug-induced drowsiness.

Administration: As directed by physician.

Form Supplied: On prescription only, in bottles of 30 and 250.

Source: Smith, Kline & French Laboratories, Philadelphia, Pa.

HEXAMETHON

Description: Tablets, each containing 250.0 mg. hexamethonium chloride; solution for injection, each cc. containing 40.5 mg. hexamethonium chloride.

Indications: For the treatment of severe hypertension, including malignant hypertension, and parenterally in certain peripheral vascular diseases.

Administration: Therapy should be begun in hospitalized patients only, under the direct supervision of physician.

Form Supplied: Bottles of 100 tablets; and sterile solution for parenteral administration in multiple-dose vials of 10 cc.

Source: Burroughs Wellcome & Co. (U. S. A.), Inc., Tuckahoe, N. Y.

INH

Description: Tablets each containing 100.0 mg. of isonicotinyl hydrazide (isoniazid).

Indications: Recommended for use in patients with active tuberculosis due to streptomycin-resistant organisms or in those patients whose response to streptomycin and other therapy has not been satisfactory.

Administration: Daily oral dosage of from 3.0 mg. to a maximum of 5.0 mg. per Kg. of body

weight (and not to exceed a total of 250.0 mg. daily) is recommended.

Form Supplied: Bottles of 100, 1000, and 5000.

Source: Eli Lilly and Company, Indianapolis, Ind.

ISOLYN

Description: Tablets, each containing 50.0 mg. of isonicotinic acid hydrazide (isoniazid).

Indications: As an adjunct to treatment of streptomycin-resistant tuberculosis or tuberculosis not responding to previous therapy.

Administration: In divided dosage after meals, 2.0 to 4.0 mg. per Kg. of body weight per day (with a maximum of 150.0 to 200.0 mg. per day). In acute forms of the disease such as miliary or meningeal tuberculosis, doses of up to 7.0 mg. per Kg. of body weight per day may be given for not more than 7 to 10 days.

Form Supplied: Bottles of 100 and 1000.

Source: Abbott Laboratories, N. Chicago, Ill.

OXITYL-P

Description: Tablets, each containing: bentyl hydrochloride, 10.0 mg.; ox bile extract, 120.0 mg.; oxidized ox bile acids, 120.0 mg.; and phenobarbital, 8.0 mg.

Indications: In the treatment of biliary dyskinesia, dyspepsia and constipation of biliary origin, noncalculous cholecystitis, chronic inflammatory disease of the gall bladder and biliary system, and postcholecystectomy symptoms.

Administration: One or 2 tablets three times daily with meals.

Form Supplied: Bottles of 100.

Source: The Wm. S. Merrell Company, Cincinnati, Ohio.

PHENERGAN LOTION WITH NEOCALAMINE

Description: A soothing lotion containing N-(2′-dimethylamino-2′-methyl) ethyl phenothiazine and neocalamine.

Indications: To relieve itching in many skin disorders.

Administration: Apply gently to affected area three or four times daily.

Form Supplied: Bottles of 4 fluidounces.

Source: Wyeth, Incorporated, Philadelphia, Pa.

TYVID

Description: Tablets, each containing: 50.0 mg. of isoniazid (isonicotinyl hydrazide).

Indications: For treatment of human tuberculosis not responding to streptomycin and/or para-aminosalicylic acid therapy.

Administration: Suggested daily dosage for the average adult: 150.0 to 200.0 mg. (not to exceed 2.0 to 4.0 mg./Kg. body weight). May be administered in two or three divided doses.

Form Supplied: Bottles of 100 and 1000.

Source: The Wm. S. Merrell Company, Cincinnati, Ohio.

MOL-IRON E.M.F.

Description: Capsules, each containing: ferrous sulfate, 195.0 mg.; molybdenum oxide, 3.0 mg.; vitamin B_{12} activity equivalent, 10 mcg.; gastric substance, 250.0 mg.; folic acid, 0.85 mg.; ascorbic acid, 50.0 mg.; and desiccated liver 100.0 mg.

Indications: For the management of iron deficiency anemia and many macrocytic anemias, including those of nutritional origin, of pregnancy, and of sprue. Also recommended as an adjunct to specific therapy in the treatment of pernicious anemia where regression of the "relapse" stage has been accomplished.

Administration: 2 capsules three times daily after meals.

Form Supplied: Bottles of 100.

Source: White Laboratories, Inc., Kenilworth, N. J.

Other New Products

(Chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy, and new dosage forms of prescription products)

AEROSPORIN OTIC SOLUTION

Aerosporin otic solution, for the treatment of ear infections, has recently been introduced by *Burroughs Wellcome & Co. (U. S. A.), Inc.*, Tuckahoe, N. Y. Aerosporin otic solution contains 0.1% Aerosporin sulfate brand of polymyxin B sulfate in acidified propylene glycol. Three or four drops of the solution are to be administered into the previously cleaned and dried ear canal three or four times daily.

MILIBIS TABLETS

Milibis tablets, manufactured by *Winthrop-Stearns Inc.*, New York, N. Y., are now available in bottles of 500 tablets, of 0.5 Gm. each. The compound was previously available in 25's only. Milibis, recommended for the treatment of intestinal amebiasis, should be administered three times daily for seven to ten days.

POLYSPORIN OINTMENT

According to a recent announcement from *Burroughs Wellcome & Co. (U. S. A.) Inc.*, Tuckahoe, N. Y., Polysporin ointment containing polymyxin B and bacitracin is now available in tubes of 1 ounce in addition to the 15.0 Gm. and 1/8 ounce sizes already supplied. The combination of antibiotics in Polysporin is said to provide a wide range of bactericidal and bacteriostatic activity in all types of surface infections.

A Safe Bulk Laxative That Patients Like

The tangy citrus flavor of Liquid 'Cologel' quickly wins favor with taste-weary patients. This easy-to-take, economical liquid laxative is nonirritating—does not interfere with the absorption of food or vitamins.

By absorbing water in the large intestine, 'Cologel' promotes the formation of normal, soft feces in the colon. The possibility of obstruction or impaction is practically nonexistent. Evacuation is natural and without irritation, griping, or strain. 'Cologel' is initially effective in from sixteen to thirty-six hours.

Daily administration assures soft bulk for daily elimination —so necessary in re-educating muscles of the colon. The usual dose is one to four teaspoonfuls with a full glass of water three times a day.

Order a case of twelve pints from your Lilly distributor and be ready to profit from the growing demand created by the current detailing and sampling program.

Eli Lilly and Company
Indianapolis 6, Indiana, U. S. A.

LIQUID

For the safe treatment of chronic or acute constipation

'Cologel'

(METHYLCELLULOSE, LILLY)